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Three Essays on the Nature of Consciousness

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Three Essays on the Nature of Consciousness

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For my parents: Cynthia Brink and John Morgan

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Abstract

Three Essays on the Nature of Consciousness

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You and I are conscious. So are most humans and higher mammals. However, things like tables, chairs, rocks, and other inanimate objects are not. Though there is something it is like to be me, there is nothing it is like to be a table. But what is it to be conscious? What is this property that we have but that inanimate objects lack? This is the question my dissertation seeks to answer.

I begin by noting an *asymmetry* in our epistemic access to qualia—roughly those qualities that we are immediately aware of in conscious experience. I argue that at least some of these qualities are *spatial* qualities and, moreover, spatial qualities that are not typically instantiated by subjects or the internal states of subjects. The moral is that, in general, being conscious must consist in being *related* to certain qualities that are not 'in the heads' of conscious subjects. Consciousness extends beyond the bounds of skin and skull.

My view is that only two theorists can adequately explain this: the *intentionalist* and the *naïve realist*. Roughly, the intentionalist thinks that to have a perceptual experience is to phenomenally *represent* the world as being some way, whereas the naïve realist thinks that to have a perceptual experience is, at least sometimes, to simply *perceive* the world. Though many hold that we must choose between these theories, I show that this is false. All positive naïve realist theses admit of intentionalist precisification. In this way, we may be both intentionalists and naïve realists.

Once we find our footing as intentionalists who embrace naïve realism, we face a further question: What is the place of consciousness in nature? Answering this question is harder than generally acknowledged since phenomenal representation has peculiar *representational limits*. Just as there are things that cannot be pictorially or diagrammatically represented, there are things that cannot be phenomenally represented. One cannot, for example, phenomenally represent color without phenomenally representing space. But extant theories that 'reduce' phenomenal representation to naturalistic ingredients fail to respect these limits. We must, therefore, embrace a non-reductive theory of consciousness.

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0. How to Read this Dissertation

Traditionally, dissertations in philosophy aspired to be book-like. The writer's goal was, in some sense, to produce a manuscript in which each chapter built on the last so that the dissertation would incrementally guide the reader to a sort of 'big picture'. I've not written this sort of dissertation. Why? Because increasing professionalization of our field has rendered the format impractical—once the tenure clock starts ticking, we are typically expected to produce a slew of articles rather than a single book. In light of this, I've opted for the so-called 'MIT style' dissertation: three independent essays, each of publishable length.

But, practical or not, I've still tried to keep some aspects of the tradition alive. Though the essays are, strictly speaking, independent of one another, they are meant to chart a single path. At the end of the path is a theory of consciousness that, though it goes unnamed in the dissertation, we might call *non-reductive naïve realist intentionalism*. Let me explain how the dissertation takes us to this view.

0.1 Theories of Consciousness

Typically, when we seek a theory of something, we have some rough sense of the ontological category under which that thing falls. When, for example, we seek a theory of color, there is some general sense that color is a *property*—not an individual, not an event, not a state of affairs. A property. It is the sort of thing that can be instantiated or not, shared by numerically distinct individuals, and so on. Similarly, when philosophers seek a theory of intentional actions, there is often tacit agreement that actions are *events*

of a certain sort.[1] Actions are the sort of things that begin and end, that have duration, and so on. This sort of tacit agreement is not usually a consequence of theorizing. Rather, it is the result of pretheoretic intuitions about the target of investigation. If this is right, then it seems that the following question should have a plausible, pretheoretic answer: Under what ontological category does *consciousness* fall?

Ordinary talk about consciousness strongly suggests that, like color, it is a property. For example, you and I are conscious. So are most humans and higher mammals. But things like tables, chairs, rocks, and other inanimate objects are not. As they say, there is something it is like to be me, or you, or an orangutan, but there is nothing it is like to be a table. In other words, there is a salient property that you, I, and higher mammals have, but that inanimate objects like chairs and rocks lack. It is the same property that you lose upon falling into a dreamless sleep and regain upon waking, the same property whose possession makes it impermissible to kick me but whose absence makes it permissible to kick a football. This property is *consciousness* (or *being conscious* if you like). Moreover, our ordinary conception suggests that consciousness is what some call a *determinable* property. Just as there are many different ways of being red, there are many different ways of being conscious. Something can be red by being scarlet or by being crimson or by having any one of many specific shades of redness. Redness is a determinable property and its shades—the different, specific ways of being red—are its determinates. The same thing holds for consciousness. What it is like to see (or for that matter hallucinate) an orange in sunlight is quite different than what it is like to feel a pain in your lower back. These are two different ways of being conscious, and, in being

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[1] Rescinding tacit agreement is, of course, an option if theoretical pursuits turn out unfruitful.

conscious in these ways, you instantiate different determinates of the determinable property consciousness. These determinates I call *phenomenal properties*.

I view my dissertation as trying to arrive at a view about the nature of phenomenal properties. You'll notice, however, that I haven't adopted the 'phenomenal properties' terminology in the essays. This is because it is not the terminology used in most of the debates that I address and—for practical, publishing-related reasons—I need to be able to put myself in direct conversation with the philosophers and scientists in these debates. Nonetheless, everything I say admits of translation into this framework.

0.2 Are Phenomenal Properties Relational Properties?

The first question I address in the dissertation is whether phenomenal properties are *relational* properties of subjects. There are two views here:

> **Relational theories:** A subject's being conscious consists, at least partially, in her being related to things that are wholly distinct from her.

> **Non-relational theories**: A subject's being conscious does not even partially consist in her being related to things that are wholly distinct from her.

In the essay *Where in the World are Qualia?*, I argue that some relational theory is true.

The argument—*very* roughly—goes as follows. Phenomenal properties seem to have certain qualities as constituents.[2] These qualities—what some call *qualia*—are the qualities that are directly present to us in experience and that characterize what it is like

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[2] This is a claim that even non-relational theorists can accept. They simply give it a non-relational reading. See Martine Nida-Rümelin (2011: 355).

for us to see, hear, smell, and so on. I argue that at least some of these qualities are *spatial* qualities and, moreover, spatial qualities that are not typically instantiated by subjects or the internal states of subjects. So, phenomenal properties must consist in relations to spatial qualities that are not (or need not) be instantiated by subjects of experience. Hence, some relational theory must be true.

0.3 Which Relational Theory?

The second question I address is which *sort* of relational theory we ought to adopt. I consider two options:

> **Intentionalism:** Being conscious is just a matter of bearing a distinctive intentional attitude to a content.
>
> **Naïve realism:** Bracketing cases of illusion and hallucination, being conscious is just a matter of being acquainted with things in the external world.

Rather than show how we might decide between these two theories, I instead show that we do not need to decide. This is the goal of *Intentionalism for Naïve Realists*. My strategy is to show that all *positive* naïve realist theses admit of intentionalist precisifications. That is, when we look at the positive claims that naïve realists make about the nature of perceptual consciousness, we can see that they may be made more specific in a way that accommodates intentionalism. But once we see that this is possible, then we can see that an intentionalist naïve realism is possible. We do not, it turns out, have to choose between the theories at all.

0.4 Can Consciousness be Reduced to Naturalistic Ingredients?

The final question I address is whether phenomenal properties admit of naturalistic reduction. There are two options here:

> **Reductive theories:** Consciousness can be identified with some set of physical, functional, or computational ingredients.
>
> **Non-reductive theories:** Consciousness cannot be identified with some set of physical, functional, or computational ingredients.

The intentionalist, traditionally, is thought to have an advantage in securing a reductive theory. Intentionality, it seems, might very well admit of naturalistic reduction—we at least have naturalistic theories of intentionality that seem relatively plausible. If phenomenal properties are intentional properties, a potential bridge across the explanatory gap becomes available: if we can cross the gap between the physical and the intentional, then we may also cross the gap between the physical and the phenomenal.

The final essay *The Representational Limits of Perception* makes a case for a non-reductive theory. Say that, on intentionalism, having a phenomenal properties consists in *phenomenally representing* certain qualities as instantiated. I argue that phenomenal representation, by its very nature, has peculiar representational limits. Just as it is impossible to pictorially represent certain qualities in isolation, it is also impossible to *phenomenally* represent certain qualities in isolation. For example, it is impossible—*metaphysically impossible*—for a subject to have an experience that phenomenally isolates color. There is no such thing as an experience 'as of' a red thing that is not also an experience 'as of' a spatial thing. The problem is that naturalistic reductions of phenomenal representation—like those of Fred Dretske (1995) and Michael Tye (1995)—

seem to predict that the relevant qualities *can* be phenomenally represented in isolation. Since these are the most promising accounts that purport to reduce phenomenal representation to naturalistic ingredients, I think we should reject reductive intentionalism in favor of non-reductive intentionalism.

0.5 Putting the Pieces Together

So, my dissertation recommends three views about consciousness: intentionalism, naïve realism, and non-reductionism. Taken together, we get—unsurprisingly—a non-reductive, naïve realist intentionalism:

> **Non-reductive naïve realist intentionalism:** Consciousness is an irreducible species of mental representation, but this is consistent with naïve realism.

I hope this gives you a sense of the contours of what's to come. Again, I stress that I do not avail myself of the term 'phenomenal properties' within the dissertation itself (for reasons already given). But maybe you will think this a good thing. If so (and even if not), I invite you to read on.

1. WHERE IN THE WORLD ARE QUALIA?

I'm interested in two interrelated questions about *qualia*:

(1) What—if anything—are qualia instantiated by?

(2) What is it for a subject to experience a quale?

Sense datum theorists provide an instructive example of how we might answer these questions. Uncomfortable with putting qualia in the material world, they locate them in certain mind-dependent objects *i.e*. sense data. On their view, experiencing a given quale like redness is to be explained by being directly aware of a red sense datum—and so on for all qualia and experiences thereof. So what are qualia properties of according the sense datum theorist? Sense data. What is it for a subject to experience a quale? It is for her to be directly aware of a sense datum that instantiates that quale.

Sense datum theorists are all but gone now, their most vocal representatives (e.g. Frank Jackson 1977) having converted to other views some time ago. Still, some philosophers and cognitive scientists are uncomfortable locating qualia in the extra-mental world. But rather than hold that qualia are properties of peculiar items like sense

data, these theorists hold that they are properties of our *mental states*—neural states in all likelihood—and our experiencing them is in some sense just a matter of being appropriately related to these states.[3] Paul Coates is one of the few proponents of this position who is completely clear about his view:

> When I look at a clear sky in the daytime, a blue phenomenal quality fills my visual field; this is, in actuality, a phenomenal quality of my inner experience. In having a perceptual experience, I am in some sense…aware of inner states of mind that mediate my consciousness of the sensible qualities of the physical objects that I perceive. (Coates 2007: 127)

This view might go by other names elsewhere, but since it locates qualia 'within' subjects of experience, I am going to call it *subjectivism*. More on this view in a moment.

This paper is a call for subjectivists to join their sense datum counterparts and convert. Subjectivism, if it ever looks plausible, only gains this appearance when we focus exclusively on qualia associated with the so-called *secondary* qualities like color. But the view looks far less plausible when we turn our attention to qualia associated with the so-called *primary* qualities like shape. If we take in the full scope of subjectivism, it looks to be a picture of qualia—and experience more generally—that we should reject. My point is one that, of course, proponents of the *transparency* of experience have been urging for years: *qualia ain't in the head*. However, my arguments are independent of theirs. In fact, they fill a previously unfilled gap in the argument from transparency.

A brief word on qualia before we begin. I assume that, if you are reading this paper, you have a decent idea of what I mean when I use the term 'qualia'. (You might use the

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[3] This, of course, would only constitute a difference between the two theories if sense data are not mental states. See Michael Huemer (2001: 152-153) for a discussion of this intermediate view.

term ‘phenomenal qualities’, ‘subjective qualities’, ‘sensory qualities’, or ‘qualitative features of experience’. I stick with ‘qualia’ here.) Moreover, you are likely a *realist* about qualia—you hold that there are such things. But some philosophers pack into their understanding of ‘qualia’ that qualia are somehow essentially ineffable, essentially private, essentially this-or-that. And, relying on these inflated understandings of qualia, other philosophers deny that there are such things.[4] But I think that, once we lean out the concept, it should be uncontroversial that qualia exist. As I use the term, qualia are those qualities of which we are immediately aware in conscious experience and that characterize what it is like for us to see, hear, smell, feel, and so on. They are the qualities that generate familiar puzzles about integrating consciousness into a physical world—puzzles like the explanatory gap, the apparent possibility of zombies, and the knowledge argument. Note that I am not trying to define the term ‘qualia’ at all. I am merely trying to draw your attention to the things I have in mind. So if qualia are essentially ineffable, private, or whatever, this is not a matter of definition, in my view, but rather a substantial philosophical claim.[5]

Hopefully this is enough to get us going for now. If not, how I use the term ‘qualia’ will become much clearer in a moment.

1.1 Subjectivism

Open up just about any introduction to vision science and you will likely find a passage that reads as follows:

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4 Most famously, Daniel Dennett (1988).

5 Moreover, as question (1) suggests, I think it is an open question—at least at the outset—what qualia are properties *of*. Even though we are immediately aware of them in experience, they may not be qualities of our experiences.

> People universally believe that objects look colored because they are colored, just as we experience them. The sky looks blue because it is blue, grass looks green because it is green, and blood looks red because it is red. As surprising as it may seem, these beliefs are fundamentally mistaken. Neither objects nor lights are actually 'colored' in anything like the way we experience them. Rather, *color is a psychological property of our visual experiences* when we look at objects and lights, not a physical property of those objects or lights. (Stephen Palmer, 1999: 95; emphasis added)[6]

A careless reading of Palmer's remarks might suggest that they are obviously wrong. For, on the face of it, one might take him to claim that when we experience colors, there are literally mental states of ours that possess those colors. But this is false. We are, as speakers of English, competent with color terms and have a good sense of when to apply them and when to withhold application. We would not generally apply the term 'neon green' to the mental states of those experiencing neon green.

But the careless reading is uncharitable. Palmer isn't really talking about color at all. Instead, he is talking about *color qualia*—or, in his terms, color as we experience it.[7] We may introduce color qualia by example. Suppose that you see a ripe tomato. As you do this, you will become immediately aware of a sort of color-like quality. It is a quality that

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6 Depending on how one interprets certain texts in the history of philosophy, this is by no means a new view. Early modern philosophers, like David Hume, often claimed things to the effect that "colors…are not qualities in objects, but perceptions in the mind" (1738/1911, Bk III, part I, Sect. 1). Similarly, some 20th century philosophers, like C.J. Ducasse, held that "blue, bitter, etc., are not objects of experience, nor species of objects of experience, but species *of experience itself*" (1952: 247).

7 See David Rosenthal (1999) for a discussion about using color terms to characterize experience.

is immediately present to you upon seeing—or for that matter hallucinating—fire trucks, roses, ketchup, cherries, Sriracha, etc. But it is not typically present to you upon seeing school buses, sunflowers, mustard, blueberries, garlic, and so on. For the sake of neutrality, we may call this quality *RED*. We may follow suit for other color qualia, using 'BLUE' to denote the color quale we typically experience upon seeing or hallucinating blue things, 'YELLOW' to denote the color quale we typically experience upon seeing or hallucinating yellow things, and so on. In specifying the intended referent of 'RED' by example, we remain neutral on the nature of RED. It is simply *whatever quality* is immediately present to one in seeing or hallucinating fire trucks, roses, and the like. So though this quality might be ordinary redness, it also might not be, at least for all that we have said so far. This means, however, that even if one is committed to saying that you have a mental state that possesses RED, one is not *thereby* committed to saying that you have a mental state that is literally red, for one is not yet committed to saying RED = red.

If we read Palmer as conveying a view about color *qualia*, as suggested above, his view seems more believable. It is an instance of a familiar view, namely, the view that *all* qualia are properties instantiated by mental states of subjects—the view that I am calling subjectivism. To be a bit more precise about all this, according to subjectivism, when I experience, say, the quale RED, my experiencing it is in some sense just a matter of my being appropriately related to a RED mental state of mine. The 'in some sense just a matter of' is meant to provide flexibility, allowing for different formulations of the view that might appeal to *identity* or *grounding*.

> **Subjectivism:** A subject's experiencing a quale is either identical with or grounded in her being appropriately related to one of her mental states that instantiates that quale.

So, it might be that my experiencing RED is identical with my being appropriately related to a RED mental state of mine. Alternatively, it might be that experiencing RED is merely grounded in, but not identical with, being appropriately related to such a mental state. 'Being appropriately related' is a placeholder for whatever relation a subject need stand in to such a state in order for that state's qualitative features to show up in her conscious life. It might be the relation that a subject stands in to such a state just when the state is poised to feed information into the cognitive system for the direct control of thought and behavior, or it might be a sort of quasi-perceptual relation, or perhaps it is just a parthood relation, or perhaps it is whatever 'relation' is denoted by 'having' in 'having a mental state'. The details will not matter for my purposes here.

Why accept subjectivism? Contemporary subjectivists (like Papineau 2014, 2016) tend to present their view as a welcome alternative to the many anti-subjectivist views of the late 20th and early 21st century (*e.g.* intentionalist or representationalist theories). Papineau's argument for subjectivism, I take it, is just that the salient anti-subjectivist alternatives are unsatisfying. I do not, however, wish to get caught up in evaluating this argument just yet. I mention it only to assure you that this discussion is not taking place in a vacuum. My concern will simply be with the viability of subjectivism for the moment. We will take a look at arguments later.

1.2 An Asymmetry

In this section, I wish to draw your attention to a certain *asymmetry* in our epistemic access to qualia. In the next section, I will explain how this asymmetry creates a problem for subjectivism.

When we discuss qualia, we often focus on things like pain qualia, color qualia, and—more generally—qualia associated with perception of the so-called *secondary qualities*. But insofar as there are qualia associated with perceiving secondary qualities, there are qualia associated with perceiving *primary qualities* like shape and spatial location. For in the same way that we are immediately aware of a certain quality when we perceive the color of a tomato, we are also immediately aware of another quality when we perceive its shape. Just as there are color qualia, there are shape qualia.

I don't assume any substantive characterization of what the primary-secondary quality distinction amounts to. However, it was commonplace among those who first relied on the distinction to hold that at least one difference between the two categories consisted in the fact that "the Ideas of primary Qualities of Bodies, are Resemblances of them, and their Patterns do really exist in the Bodies themselves; But the Ideas, produced in us by these Secondary Qualities, have no resemblance of them at all" (Locke, 1689 2.8.15). On one way of reading these remarks, if 'ideas' are qualia, the thought is that qualia associated with perceiving primary qualities genuinely resemble primary qualities themselves, but qualia associated with perceiving secondary qualities do not resemble secondary qualities at all.[8] So, for example, shape qualia resemble shapes, but color qualia do not resemble colors.

Bracketing for a moment whether you agree with Locke on the claim about resemblance, there is an interesting question to be asked: What would make such a claim even *seem* plausible? That is, why would one even be inclined to think that (for example) shape qualia resemble shapes whereas color qualia do not resemble colors?

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[8] Alternatively, if we think of ideas as states of subjects or even sense data, we might say that the bearers of shape qualia resemble the bearers of shape whereas the bearers of color qualia do not resemble the bearers of color.

I think the answer has to do with the kind of impoverished *epistemic access* that we have to color qualia. The idea I have in mind, to some extent, originates in the work of Thomas Reid. He writes,

> Everyone knows that extension, divisibility, figure, motion, solidity, hardness, softness, and fluidity, were by Mr Locke called *primary qualities of body*; and that sound, colour, taste, smell, and heat or cold, were called *secondary qualities*. Is there a just foundation for this distinction? Is there anything common to the primary which belongs not to the secondary? And what is it?
>
> I answer, That there appears to be a real foundation for the distinction; and it is this—that our senses give us a direct and a distinct notion of the primary qualities, and inform us what they are in themselves. But of the secondary qualities, our senses give us only a relative and obscure notion…as to what they are in themselves, our senses leave us in the dark. (1785: 2.17)[9]

Now, the way I would read Reid here—or, at any rate, a plausible point that is suggested by Reid's remarks—is that perception of a primary quality puts one in a position to know the *real definition* of that quality whereas perception of a secondary quality does not. Think of real definitions as metaphysical analyses that tell us, in a robust sense, what something *is*. For example, you might think that what it is to be a person is to be a rational animal. That is, the real definition of the property *being a person* is the property

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[9] Reid ultimately rejects the idea that sensations of primary qualities resemble the primary qualities themselves. However, it is reasonable to think that, in offering up the account he does, he is offering an explanation of why we would be inclined to think that a resemblance holds in the first place.

being a rational animal—that's what it is to be a person. Alternatively, what it is to be square is to have exactly four sides of equal length and exactly four interior angles each of 90º—that's the real definition of being square. Reid's idea, then, seems to be that perception of (say) shape puts one in a position to know what it is for something to be shaped whereas perception of color does not put one in a position to know what it is for something to be colored.

It is natural, I think, to extend Reid's remarks to what we can know about color and shape *qualia* by means of being directly aware of them—by being *acquainted* with them. For reasons I will explain in a moment, there is an *epistemic asymmetry* in our access to shape qualia and color qualia (and qualia associated with the primary and secondary qualities more generally).[10] Moreover, it seems to be this asymmetry that underlies the plausibility of Locke's resemblance thesis.

To see why the existence of an epistemic asymmetry is plausible, focus first on the case of color qualia. Arguably, real definitions of color qualia *are not* knowable through acquaintance. (The usual restrictions to 'knowable' apply here—I mean typically knowable for creatures like us under normal circumstances.) To know the real definition of a property F is to have a bit of propositional knowledge—knowledge that what it is to be F is to be thus-and-such. But it is plausible that knowledge of this sort about color

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[10] As a brief aside, I take it for granted that we are acquainted with qualia. In fact, I take a subject's being acquainted with a quale to be necessarily coextensive with that quale's being immediately present to that subject. The acquaintance relation is the converse of the immediate presentation relation. To that extent, it is *nearly* definitional, at least as I use the term, that, qualia can become objects of acquaintance. The means by which we are acquainted qualia I leave open to speculation. It may be a certain sort of *phenomenal* acquaintance whereby our being acquainted with qualia simply consists in having experiences of a certain sort. Or it might be a kind of *introspective* acquaintance that is independent of experience. Or it might be something else entirely. I leave this matter open in the text.

qualia is not available through acquaintance with them. Consider, for example, the quale RED. There are substantial things that I can know about RED, at least in part, by being acquainted with it. If, in addition to RED, I am also acquainted with BLUE and ORANGE, I can come to know that, necessarily, RED is more similar to ORANGE than it is to BLUE. But if upon being acquainted with RED, I put to myself the question of what it is to be RED, I find myself at a loss. In at least my own case, acquaintance—even when supplemented by my competency with various concepts from philosophy and science—fails me. I cannot really tell you anything informative about what it is for something to be RED on these grounds. Acquaintance tells me nothing of RED's real definition.

To make this vivid, suppose RED's real definition is *functional*: what it is to be RED is to possess some functional quality F. Yet, even if I possess a clear and distinct concept of F, introspecting RED does not put me in a position to know that what it is to be RED is to be F. Similar remarks hold for other properties that might provide the real definition of RED, like the property of having a disposition to reflect certain wavelengths of light across the visible spectrum or the property of exhibiting a certain firing rate in the 'posterior cortical hot zone' in the brain.[11]

This sort of poverty of acquaintance is something that, quite often, contemporary philosophers accept. That is, they accept the claim that the real definition of RED is not

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[11] Now, you might want to say that the reason that acquaintance does not enable us to know that RED has thus-and-such real definition is that it *has* no real definition and we cannot know false things. In other words, RED is a simple property that admits of no metaphysical analysis. But, at least to me, it also seems that we cannot know that RED is simple (if it is) just through acquaintance either. We cannot, through acquaintance, even come to know that RED *lacks* a real definition.

knowable through acquaintance. For example, Michael Tye writes—even if RED is ordinary redness—that, nonetheless,

> [t]he nature of the color red is not completely known to us in acquaintance. Acquaintance does not tell us what that nature is. To know the nature of red, we need to know that the nature is so-and-so. And knowledge by acquaintance does not issue in knowledge of this sort. (2009, 143).

Tye's motivation for thinking this is, in part, that he takes RED to be a complex, physical property of objects. Yet we cannot, it seems, know this fact about RED just by being acquainted with it.

It is interesting, however, that parallel claims about the nature of shape qualia are absent from the philosophical literature. Almost no one, to my knowledge, holds that their real definitions are hidden from us in acquaintance. This, I believe, is no accident. The parallel claims about shape qualia are extremely implausible.

Suppose that I am looking at a Post-it note head-on. In doing so, I am presented with a quality—the same quality that is presented to me when I look at a floor tile or a coffee table from above. For the sake of neutrality, we may call this quality *SQUARE*. Although acquaintance does not reveal to me the nature of RED and other color qualia, it *does* seem to reveal to me the nature of SQUARE. That is, in some sense, the real definition of SQUARE is knowable through being acquainted with it. Given a bit of background knowledge of geometry, upon being acquainted with SQUARE, I can tell what it is to be SQUARE: it is to have exactly four straight sides of equal length and exactly four interior angles, each of 90º. Given my background conceptual capacities, SQUARE's geometric

nature is simply laid bare to me. Why the confidence? Because, if I am wrong about this, then I confess that I must be deeply confused about the subject matter of geometry. If geometry doesn't concern properties like SQUARE, then I must be wrong—*very* wrong—about how to apply the concepts of length, equality, angle, side, and so on. For it seems obvious to me (just about as obvious as anything) that what it is to be SQUARE is to have exactly four straight sides of equal length and exactly four interior angles of 90º. Of course, I might be *slightly* wrong. That is, I may have gotten some of the measurements of the interior angles wrong, or I might be mistaken that the sides all need to be of exactly the same length. However, I can tell that the real definition of SQUARE at least *resembles* the real definition of squareness itself. And, to that extent, I can tell that SQUARE is a sort of geometric quality. With varying degrees of precision, I can do this for many shape qualia.

But again, I cannot do this for color qualia. It is this epistemic asymmetry, I believe, that underlies the idea that qualia associated with the primary qualities resemble the primary qualities whereas qualia associated with the secondary qualities do not resemble the secondary qualities. I am not suggesting that the latter portion of this claim is true—I am not suggesting, for example, that color qualia do not resemble colors. Rather, I am suggesting that the apparent difference in resemblance is explained by patterns of epistemic access that we have to qualia. We can easily come to know the (at least approximate) real definitions of shape qualia through acquaintance and, as it turns out, these real definitions resemble the real definitions of shapes. But the real definitions of color qualia are not knowable in this way and, to that extent, we cannot know through acquaintance whether color qualia resemble colors. *That* is what makes Locke's claims about resemblance seem plausible (even if false).

1.3 The Problem of Phenomenal Geometry

Reflection on this apparent asymmetry, however, reveals a problem for subjectivism. The problem is that if shape qualia have the real definitions that I claim they do—namely, *geometric* real definitions—then subjectivism is very likely false. If you want to think of it this way, I want to deny the consequent of a claim that David Lewis once made, namely that "If qualia are physical properties of our experiences, and experiences in turn are physical events, then it is certain that we seldom, if ever, identify the qualia of our experiences" (1995: 142). I claim we *can* identify shape qualia and so deny the consequent. Since I deny the consequent, I also deny the antecedent: that shape qualia are properties of our experiences—or any of our mental states for that matter.

For convenience, I reproduce my characterization of subjectivism below:

> **Subjectivism:** A subject's experiencing a quale is either identical with or grounded in her being appropriately related to one of her mental states that instantiates that quale.

I invite you to bring some square item before you—for the sake of illustration, I will assume you have chosen a Post-it note. Place the Post-it note directly before you and take a good look at it. As you do this, you will experience SQUARE. If subjectivism about shape experience is true, then your experiencing SQUARE is just a matter of your being appropriately related to some mental state of yours that is itself SQUARE. So, there must be a mental state of yours that is, in fact, SQUARE.

However, to repeat a point from above, SQUARE has its geometric nature revealed to us in acquaintance. By being acquainted with it, and being competent with basic geometric concepts, we can tell what it is for something to be SQUARE: it is for it to

have exactly four straight sides of equal length and exactly four interior angles, each of 90º.[12] If this is right, however, then SQUARE is none other than *ordinary* squareness. Yet—and here is the important point—if SQUARE is squareness, then the subjectivist is committed to the following: (1) When you experience squareness, *there is literally a mental state of yours that is square*; and moreover, (2) your having a square mental state is identical with or grounds your experiencing squareness.

Both claims are implausible. Suppose first that mental states are (token) identical with brain states or, at any rate, states that are spatially coincident with brain states. If so, then, intuitively, the first claim seems wrong. The idea that there is a square thing in your head whenever you experience squareness is, well, bizarre. (As Fred Dretske once put it, "your experiences of moving squares [*i.e.* brain states] aren't moving squares" (2003: 72).) Relatedly, the idea that being related to a square thing in your brain is identical with or grounds your experiencing squareness is not a plausible empirical hypothesis. No scientist seeking the neural correlates of shape qualia would claim that having a square brain state explains, let alone is to be identified with, one's experiencing squareness. The experience of squareness is, if anything, correlated with some kind of global or local neural activity—plausibly activity in the so-called 'posterior cortical hot zone'.[13] It is not correlated with having a square brain state. So even *if* you happened to have a square brain state at the time you experience squareness, there is no reason to think that your being related to such a state is identical with or grounds your experiencing squareness.

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[12] I'm bracketing the issue (discussed in the last section) of whether I've got the real definition *exactly* right in order to simplify the presentation of this issue.

[13] See Koch et al (2016).

Now, suppose instead that mental states are not even token identical with brain states or, in fact, anything spatially coincident with the brains of subjects. Suppose instead that something like Cartesian dualism is true—mental states are token identical with non-spatial states of some Cartesian mind. So, experiencing SQUARE requires and is explained by being related to a square, non-spatial mental state. Again, this is false. Since SQUARE is squareness, this means that you must have a non-spatial mental state that is square. But this is metaphysically impossible—being square constitutively requires being spatial. And this means that, if you are in fact a Cartesian mind, then none of your mental states are square, so your experience of squareness cannot be identical with or grounded in your being related to a square mental state of yours. Subjectivism, even when given a Cartesian interpretation, must be false.

To recap, the argument is this. Subjectivism about shape experience requires that, when you experience SQUARE, you are appropriately related to SQUARE mental state of yours and that your being so related is either identical with or grounds your experiencing SQUARE. Since SQUARE is squareness, that means that you must have a mental state that is literally square and that your being related to a square mental state explains your experiencing squareness. For both intuitive and empirical reasons, these claims are implausible. So we should reject subjectivism. I will call this *the problem of phenomenal geometry*.

If you are a subjectivist, you will of course want to resist the problem. And it seems to me that the only somewhat reasonable place to press is on the claim that we can know the real definition of SQUARE by being acquainted with it. So let me consider some possible objections to this claim and explain why I do not find them compelling.

Objection. You are confusing what a subject perceptually *represents* in experience with the quale she experiences. When you think you are attending to SQUARE and making claims about its real definition, really you are attending to the property squareness that you happen to perceptually represent when you experience SQUARE. You are, therefore, not really making a claim about qualia.

Reply. This doesn't match my phenomenology at all. I find only *one* thing that I am acquainted with and on which I base my judgments, and it is the quale that I call SQUARE. In fact, any quality that I can directly attend to in this way is, by my lights, a quale. So I see little reason to think that I am guilty of this sort of confusion.

Objection. Well, at any rate, the epistemic principle you appeal to is false. You claim that we can know the real definition of SQUARE by being acquainted with it and having sufficient knowledge of geometry. You also seem to think that this is a general claim—it holds of all shape qualia. But it clearly does not. Suppose that you perceive a thousand-sided figure and are acquainted with a shape quale that we can call *COMPLEX*. Even if you are sufficiently familiar with how to geometrically characterize a thousand-sided figure, you will not be able to know the real definition of COMPLEX just by being acquainted with it.

Reply. Of course, atypical cases and cases where subjects do not or cannot properly exploit their epistemic position are to be expected. The case of COMPLEX is one of these cases. It is true that our knowledge of shape qualia through acquaintance is limited in certain ways. But, in general, when the shape qualia in question are sufficiently simple, we are in a position to know their real definitions, so long as we are competent with certain geometrical concepts.

Objection. Sure, but the matter is worse than you let on. It simply can't be that it is *just* geometrical knowledge plus acquaintance that enables you to know the real definition of a shape quale. Consider a Molyneux-inspired example where a subject, blind since birth, becomes a master geometer. If they one day gain the power of sight and become acquainted with SQUARE, they might nonetheless be incapable of knowing SQUARE's real definition.

Reply. I acknowledge that this is a tricky case. But again, I do not mean to suggest that the principle I allude to—that acquaintance with a shape quale plus geometric knowledge enables one to know the real definition of that quale—is exceptionless. It is an epistemic generalization and, like generalizations in the special sciences, admits of tolerable exceptions. To take a more ordinary case, I do not mean to suggest that situations involving tilted coins, many-sided figures, and the like are cases where shape qualia have their natures *completely* revealed to us in acquaintance.

> Nor do I mean to say that this method of knowing is infallible or foolproof—you might have sufficient knowledge of geometry, be acquainted with a shape quale, and nonetheless be incapable of knowing its real definition. All I mean to say is that, in general, where the shape quale in question is relatively simple, typically, being acquainted with it plus knowledge of geometry puts one in a position to know its real definition. In fact, I do not even need this to be a general truth. It only needs to hold in one case for there to be a problem for subjectivism.

So, it seems to me that, barring additional considerations, the argument should be allowed to pass. And, if it is allow to pass, then we must reject subjectivism.

1.4 Fractured Subjectivism

At least we must reject subjectivism if it is intended to be a fully general claim. For you might think that what the argument shows is merely that subjectivism is false where *shape* qualia are concerned. However, that leaves open the possibility that subjectivism is true where *color* qualia are concerned. In short, we might accept the following fractured version of subjectivism:

> **Fractured subjectivism:** (1) A subject's experiencing a color quale is either identical with or grounded in her being appropriately related to one of her mental states that instantiates that quale; however, (2) a subject's experiencing a shape quale is *neither* identical with *nor* grounded in her being appropriately related to one of her mental states that instantiates that quale.

Fractured subjectivism obviously avoids the worries about a more general form of subjectivism by restricting the subjectivist thesis to color qualia and explicitly rejecting it for shape qualia. But it is, I think, an unlovely view. It would be preferable if we could accept a uniform account of experiencing qualia, an account that applies as much to color qualia as it does to shape qualia. At this point, I think we need to consider what reasons there might be for accepting subjectivism of any sort and see whether they are strong enough to warrant considering a fractured theory.

Recent proponents of subjectivism tend to argue for it *by elimination*. The thought, it seems to me, is that we have narrowed the acceptable theories of perceptual experience to two, some variety of *intentionalism* or else subjectivism, and that intentionalism is unsatisfactory.

> **Intentionalism:** A subject's experiencing a quale is either identical with or grounded in her being appropriately related to a mental state that represents that quale.

To explain the view, we can rely on commonsense examples of representation. Utterances, sentences, words, maps, pictures, diagrams, paintings, thermometers, speedometers—all these things have representational features. A painting, for example, may represent a certain scene; a speedometer may represent the speed of a car; a sentence may represent a state of affairs. The intentionalist holds that—just as paintings represent scenes, speedometers speeds, and sentences states of affairs—certain mental states of ours represent qualia. Moreover, our experiencing qualia is identical with or grounded in our being appropriately related to states that represent these qualia. However, that does not require that the states *instantiate* qualia. Just as the word 'red' may represent red

without *being* red, our mental states may represent qualia without having qualia. In this sense, intentionalism makes room for, and is standardly interpreted as, a radically anti-subjectivist view on which qualia are nowhere 'in the head' of the subjects that experience them.[14]

David Papineau (2014, 2016) provides the clearest and, to my knowledge, most thorough argument against intentionalism and for subjectivism. He writes:

> it now seems to me, as I said, that [intentionalism] is all wrong. I still think that sensory experiences are representations all right. But I don't think that the conscious properties that they involve are representational properties. By way of analogy, the sentences that I am now writing are representations, but their shape properties are not the same as their representational properties. The two are only contingently connected. Those shapes could easily have had different representational properties. (2014: 1-2)

What Papineau seems to be saying here is this. He admits that mental states that have qualia *do* represent. But the properties they represent are not the qualia we experience—qualia are not properties *represented* by our mental states. Rather, they are properties *of* our mental states. In his words:

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[14] As an aside, a 'subjectivist' variety of intentionalism is obviously coherent. I might think that experiencing a quale is identical with being appropriately related to a mental state that represents that quale. However, I might hold that the state represents that quale *in virtue of* possessing it. We might call this a version of *projectivist* intentionalism on which subjects represent properties of their mental states as being instantiated in the external world. Projectivist intentionalism, however, faces the problem of phenomenal geometry discussed in the preceding section.

> From my perspective, then, our conscious sensory properties, the ones we are aware of when we introspect, are intrinsic properties of us, and metaphysically quite distinct from the properties of objects that successful sensory experience enable us to perceive. The 'blueness' that I know to be present when I introspect my sense experience is a property of me, not of the object out there. (ibid: 23)

The question of course is why we should believe this and, in particular, why we should accept the subjectivist story instead of the intentionalist one.

Papineau thinks, in broad strokes, the most compelling answer comes from the problem of hallucination.

> As noted earlier, representationalists are common factor theorists, taking the same conscious properties to be present when I am mistakenly seeing a green lemon to be yellow as when I am veridically perceiving a yellow one. In both cases I have the property of representing the lemon to be yellow, and the conscious nature of my experience is constituted by this common fact. So now focus on the case where I have this conscious experience, yet the lemon is green. Yellowness is still supposed somehow to be "present in" my experience. But clearly it is not there in virtue of being instantiated. Nothing in this case instantiates yellowness. The lemon is not yellow, I am not yellow, and none of my mental states is yellow…I must say that I find the representationalist view hard to understand at this point. Uninstantiated properties are not located within space and time. It seems strange that a mental relation to such an abstract entity could

> constitute the phenomenal character of my experience. My conscious states are here-and-now, local, the kind of things that have causes and effects. How could a mental relation to an uninstantiated universal constitute this kind of state? (2016: 336-337)

In other words (and to change the example slightly): When we hallucinate (say) a ripe orange, but there are no ripe oranges in existence, the subjectivist will simply say that our hallucinatory experience is explained by our being related to an ORANGE mental state. Similarly, the intentionalist will say that—although ORANGE might very well be the property orangeness—we are merely in a state that represents ORANGE, but states can represent properties even if those properties are uninstantiated. (The word 'orange' would continue to represent orangeness even if all orange things ceased to exist.) Because something may represent ORANGE even when it is uninstantiated, it seems that ORANGE must be an *abstract* thing. The intentionalist must therefore hold that some qualia are abstract and that experiencing a quale sometimes consists in bearing a relation to an uninstantiated abstract thing. The puzzle, according to Papineau, is how this could be. His objection seems to be that abstract things aren't located in space or time. But it is highly counterintuitive that our experiences should in any way involve things outside of space and time.

However, the intentionalist should, I think, be unfazed. If ORANGE is indeed an abstract thing, then the subjectivist must appeal to abstracta in her theory of experience just as much as the intentionalist. For on her view, the character of our experiences is in part explained by the *instantiation* of abstracta. It is not obvious why having a theory that appeals to the instantiation of abstracta is any less mysterious than a theory that appeals to a sort of relation to abstracta. So unless the subjectivist is willing to go in for full-

blown nominalism about properties, or some version of trope theory, then there seems little reason to think the subjectivist has any real advantage over the intentionalist here.

Perhaps then the issue is merely that the property is *uninstantiated*, not that it is abstract. But why does Papineau think this is a problem? Perhaps the thought is that if experiences are sometimes relations to uninstantiated properties, then these properties must be causally irrelevant to the actual behavior of the subjects that have these experiences. But as I see it, there is no true difficulty here. Provided we bear relations to them, uninstantiated properties may be causally relevant to our behavior in the same way that *false propositions* are relevant to our behavior. When I believe falsely that I left the stove on, I may nonetheless be caused by this belief to return home and investigate the stove. Equally, if the burner looks red to me, even though it is not, the redness may be causally relevant to my trying to turn the stove off. I see no genuine obstacle here.

Another reason, however, might be that it is phenomenologically hard to believe that the properties we confront in experience are uninstantiated. Agreed. It does seem extremely intuitive, at least upon introspection, that qualia are instantiated by *something*. When ORANGE is present to me—either in veridical perception, illusion, or hallucination—it seems to be possessed by some object of some sort. The intentionalist, however, will not be able to say this given her standard commitments. For she will tend to say that ORANGE *is* orange—the property that typically qualifies the surfaces of objects that we call 'orange'—and it could very well be that when one hallucinates an orange thing, there is no orange thing in existence. To that extent, our experiencing orange will be a matter of bearing a representational relation to an uninstantiated property in cases of hallucination. *That*, you might think, goes against the phenomenology.

Provided that we are deciding between subjectivism and intentionalism, it might also be a reason to prefer the former to the latter.

The problem, however, is the intuition that something instantiates qualia is not independent from an intuition about *what* instantiates them. And, on this matter, the subjectivist gets things all wrong. Qualia—if they seem to be instantiated by anything at all—seem to be instantiated by things out there in the external world, not mental states. This is what proponents of the so-called *transparency of experience* have been urging for the past three decades. (More on this in a moment.) When you attend to a quality like ORANGE, it seems very much that it is instantiated by something you perceive, something in front of you. It does *not* seem to be instantiated by one of your mental states—in fact, it positively seems *not* to be so instantiated. So if the subjectivist attempts to appeal to the intuition that qualia seem to be instantiated, then she must contend with the full intuition that qualia seem to be instantiated *by things beyond the mind*. That is not an intuition that speaks in favor of her view.

1.5 The Argument from Transparency

And this brings me to one last topic that I would like to discuss: the transparency of experience. For the conclusion of my argument—that subjectivism is false—is one that would be embraced by those who hold that experiences are transparent to introspection.[15] However, the problem of transparency is distinct from the problem of phenomenal

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[15] Harman (1991) is, arguably, the catalyst for the prevalence of transparency in contemporary philosophy of mind. For other philosophers that endorse transparency, see Byrne (2009: 434), Cutter (2018), Dretske (2003), Hill (2009: 143-145), Jackson (2004, 109), Levine (2010: 212-213), Martin (2002), Speaks (2009), Thau (2002: 33-35) and Tye (1995, 2002, 2009, 2014).

geometry, and it is worth explaining why. In fact, I'd like to highlight how the problem of phenomenal geometry might fill a lacuna in the transparentist's argument.

The transparentist's main point is this:

> **Transparency**: When we introspect qualia, the only properties we directly attend to are properties instantiated by things in the external world, insofar as they are instantiated by anything at all.

What this is supposed to show, ultimately, is that qualia are not qualities of the mental states of subjects that experience them. If this is right, then subjectivism is false. To see the argument, one has to do a bit of introspective work. Michael Tye guides us through the first few steps in the following passage:

> Focus your attention on a square that has been painted blue. Intuitively, you are directly aware of blueness and squareness as out there in the world away from you, as features of an external surface. Now shift your gaze inward and try to become aware of your experience itself, inside you, apart from its objects…The task seems impossible: one's awareness seems always to slip through the experience to blueness and squareness, as instantiated together in an external object. In turning one's mind inward to attend to the experience, one seems to end up concentrating on what is outside again, on external features or properties. (1995: 30)

It is hard to deny that there is something intuitive about this. The features that we can attend to upon introspecting qualia *really do* seem to be located out there, in the external world. Suppose that I see a ripe tomato and experience RED. I now try to turn my attention inward to qualities of my experience—or, for that matter, any of my mental

states—and fail. When I attend to RED, the only properties I attend to are properties of the tomato, not to any properties of my mental states. So if I attend to RED, but not to any qualities of my mental states, then RED is not a quality of one of my mental states. And if that is right, then subjectivism is false.

The argument, in effect, appeals to a difference in *de re* attitude property and Leibniz's Law.[16] It says that RED has the property of being introspectively attended to by me, but arbitrary property F of my mental states does not. Since RED and F differ in their properties, by Leibniz's Law, RED must be distinct from F. Since F is an arbitrary property of my mental states, RED cannot be identical with any property of any mental states. But if that is right, then subjectivism is false. We cannot, for example, identify my experiencing RED with being related to a RED mental state: for none of my mental states are RED. Nor can being related to a RED mental state ground my experiencing RED: for, again, none of my mental states are RED. Call this the *problem of transparency*.

Set up in this way, it should be obvious that the problem of transparency is distinct from the problem of phenomenal geometry. While both have as their conclusion that subjectivism is false, the latter problem makes no use of the claim that experiences are transparent to introspection. Instead, its core claim is that we can tell that shape qualia are geometric qualities and that these geometric qualities are not typically properties of our mental states. Moreover, there are difficulties for the problem of transparency that aren't difficulties for the problem of phenomenal geometry. Note that, as I've construed it here, the argument from transparency is an argument from Leibniz's Law where the property that one thing has, but another lacks, is the property *being the object of a psychological attitude*. We should therefore be prepared for familiar difficulties that attend such

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16 I think this argument is suggested by remarks of Tye (2002: 139).

arguments in the philosophy of mind. I won't rehearse these (hopefully familiar) issues here.[17]

Instead, let me point out some ways that the subjectivist might reply to the problem of transparency. A common strategy is to insist that, in some respect or another, experiences are *not always* transparent to introspection—they are, as we might put it, *translucent*. We can, to some extent, 'see through them', but they are not entirely transparent to us:

> **Translucency**: When we introspect qualia, sometimes the properties we directly attend to are properties instantiated by things in the external world, and sometimes they are properties of our mental states.

Visual blur is a familiar example that is often meant to support translucency. For in cases of blur, we do not even seem to be attending to features of objects out there in the world. Perhaps there are even stronger cases where it seems obvious that we *do* attend to features of our mental states themselves. There are also tricky cases, for example, involving *temporal* properties. It is plausible that we attend to certain temporal properties—like duration—upon introspection of our experiences. In general, we take these temporal properties to be properties of events external to us. It is, say, the tomato's rolling down the hill that seems to last for a certain period of time. But it might very well be that the duration of the tomato's rolling is identical with the duration of my experience of it rolling. To that extent, I might be said to attend to a temporal property of my experience.

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[17] See Paul Churchland 1985. The similarities between the arguments he considers and the argument from transparency are striking.

At any rate, none of these points is especially helpful to the subjectivist. If her thesis is *fully general*, she cannot allow that experience is in any way transparent to introspection. Translucency, in other words, isn't enough. The subjectivist must endorse something stronger: she must hold that whenever we introspectively attend to a quale, the property we attend to is a property of one our mental states.

> **Opacity**: When we introspect qualia, the only properties we directly attend to are properties instantiated by our mental states and never qualities instantiated by things in the external world.

Why? Because if there is even *one* quale that is such that, when we attend to it, we are not attending to a property of our mental states, then subjectivism is mistaken. For the subjectivist will then have to admit that the transparency argument is to some extent successful—some qualia are not properties of our mental states. But subjectivism is a fully general thesis, and if the transparency argument is to any extent successful, then that means subjectivism must be false. So, the subjectivist, unless she wishes to weaken her view, must insist that our experiences are opaque.

If she is to respond to the transparentist, she must at least make her endorsement of the opacity claim defensible. How should she do this? In my view, the subjectivist should concede, to some extent, to the transparentist: it does *seem* that, when we introspectively attend to qualia, we are attending to qualities of things out there in the world. Denying this would just be bad phenomenology. But putting things in this way makes clear an intermediary step that the subjectivist might challenge, namely, that qualia are as they introspectively seem. Let's focus on RED. The subjectivist should say that, though RED seems to be out there in the world, and not a quality of a state internal to me, it is not.

Really, RED is a mere quality of one of my mental states. Introspective appearances do not match the facts.

There is significant pressure, however, for the subjectivist to fill in this picture. For, at first blush, the proponent of transparency will (and should) find this reply unconvincing. Pick any claim *p*. It is not a satisfactory objection to *p* to merely say, "Though it seems that *p*, in reality *not-p*." (If it were, philosophy would either be much easier or much harder, depending on which side of this sort of objection one fell.) Rather than merely assert that things are not as they seem, we need to offer up some *explanation* of why things are or might not be as they seem—either by arguing for *not-p* or explaining why the appearance that *p* might be misleading.[18] Relatedly, claiming that experience merely seems transparent/translucent, but is instead opaque, is not a compelling reason to reject introspective appearances. The subjectivist needs to either argue against translucency or else explain why introspective appearances might fail us. Put differently, the subjectivist therefore needs a *defeater*. Either she needs a *rebutting* defeater—some evidence directly shows that experience is not even translucent. Or she needs an *undercutting* defeater that dispels the presumptive force of introspective appearances.

Providing a rebutting defeater is a more ambitious route than I am willing to consider here—moreover, I do not know of any convincing, direct arguments against translucency. Instead, if anything, the subjectivist should go for an undercutting defeater with an aim to reduce our confidence in the veracity of introspective appearances. Her best bet—both because it is dialectically effective and independently plausible—is to appeal to our limited powers of introspection.

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[18] This is because appearances have defeasible justificatory power—if it appears to one that *p*, then that is at least some justification for believing *p*. I'm appealing here to a variant of something known as the principle of phenomenal conservatism. See Michael Huemer 2007.

In initially formulating the claim about transparency, I said that the transparentist's core claim is, roughly, that qualia are instantiated by external objects *insofar as they are instantiated by anything at all*. This qualification is meant to accommodate cases of illusion an hallucination when *no* external object has the relevant quale. But how could we come to know this conditional claim through being acquainted with qualia? It must somehow be that by being acquainted with qualia, we can somehow tell that they are the *sort* of things that are instantiated by external objects. The only sense I can make of this is to say that, somehow, we must be able to know the real definitions of qualia when we are acquainted with them. The problem, however, is that transparentists tend to explicitly formulate their arguments in a way that blocks this option. Tye, in formulating his version of the argument, writes that:

> no definite claim is being made as to the identity of each of the relevant qualities…The point that matters for present purposes is simply this. Whatever the nature of the qualities of which we are directly aware when we focus upon how the surfaces before us *look*, these qualities are not experienced as qualities of our experience but rather as qualities of the surfaces. (2002, 138)

But now the subjectivist should wonder: if no definite claim is being made as to the nature of qualia, how can the transparentist have the crucial claim that qualia are the sort of things that can only be instantiated by external objects? And how can transparency work as an argument against subjectivism if we don't have this claim?

Here, I think the problem of phenomenal geometry can help. Maybe, as I have suggested, color qualia have their natures hidden from us when we are acquainted with

them. But shape qualia do not. We can tell that they are geometric qualities, and, with a bit of commonsense reasoning, that they are geometric qualities that are not typically properties of our mental states. If they are properties of anything at all, they are properties of objects out there in the world. This, of course, does not quite get us the full transparentist claim that *all* qualia are, if properties of anything at all, properties of things in the world.[19] But it gives us enough to see what the transparentist got right. To that extent, we can, if we like, think of the problem of phenomenal geometry and the problem of transparency as a pair. Subjectivists are trying to kick qualia out of the world and into the mind. But we, armed with these problems, can put both qualia and subjectivists where they belong.

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[19] The following might seem a promising line of thought: There is a strong intuition that (for example) color qualia and spatial qualia are *coinstantiated*. Whatever instantiates color qualia also instantiates spatial qualia, and vice versa. But since our mental states do not typically instantiate spatial qualia, so it seems quite unlikely that they instantiate color qualia. The problem is that the coinstantiation intuition faces difficulty in light of certain sorts of illusion where, intuitively, a color quale is instantiated but a spatial quale is not, or vice versa. It is not, therefore, clear whether we could rely on this intuition to get the full blown transparency claim.

2. Intentionalism for Naïve Realists

The latter portion of the 20th century witnessed what we might call *The Intentionalist Revolution* in the philosophy of mind. Philosophers—led by seminal works from Fred Dretske (1995), William Lycan (1996), and Michael Tye (1995)—began to think that there was an essential connection between conscious experience and intentionality. In fact, it seemed that experience might just *be* a species of intentionality. A potential bridge across the explanatory gap was exposed: if we can cross the gap between the physical and the intentional, then, if experience is a species of intentionality, we can also cross the gap between the physical and the phenomenal.

Post-Revolution, intentionalism became one of the most popular theories of perceptual experience. But it has developed rivals. In particular, *naïve realists* often advertise their theory of perceptual experience (which I will explain shortly) as a viable anti-intentionalist alternative. This paper is, in part, an expression of confusion about the naïve realist's marketing strategy. The source of my confusion is this: every core naïve realist thesis I can think of—at least the ones that are supposed to be incompatible with intentionalism—*admits of an intentionalist precisification*. And, to that extent, the views need not be rivals at all. Accordingly, this paper can be viewed as part of a wave of recent attempts to reconcile intentionalism and naïve realism.

2.1 Intentionalism

Let me start by saying a bit about intentionalism. As I see it, the primary insight of the intentionalist is that there is an important analogy between perceptual experience and

familiar intentional attitudes—attitudes like believing, hoping, desiring, and so on. In the words of intentionalists (and their opponents):

> [P]erceiving is very much like a traditional propositional attitude, such as believing or intending ... when one has a perceptual experience, one bears the perception relation to a certain proposition *p*. (Byrne 2005: 453)

> I take as "intentionalist" . . . the theory which treats perception as a kind of propositional attitude, akin to belief. (Crane 1998: 233)

> An intentional theory of perception claims that…experiences have an intentional content that represents the world as being some way. This is to see experiences as akin to propositional attitudes such as beliefs. (Martin 1994: 745)

At the more radical end of the spectrum—the end that will concern me here—the intentionalist thinks that to have an experience *just is* to bear an intentional attitude to a content.

> **Intentionalism:** Having an experience is identical with bearing an intentional attitude to a content.

Consider a familiar intentional attitude like *believing*. Suppose that I believe that the Earth is round. Intuitively, *what* I believe—the content of my belief—is the proposition that the Earth is round. Moreover, my having this belief is, in some sense, just a matter of my bearing the belief relation to this proposition. The intentionalist thinks that a similar story holds for experiences. Just as to have a belief is to bear a distinctive kind of

intentional attitude to a content, to have an experience is to bear a distinctive kind of intentional attitude to a content. We have no name for this attitude in English, but we might follow Byrne 2009 and call the attitude *EX-ing* (which is intended to be suggestive of 'experiencing'). So the intentionalist's view, condensed, is that to have an experience is to EX a content.

What sort of content? In the case of belief, it is fairly clear—perhaps even definitionally true—that the contents are propositions. Now, the intentionalist could opt for a non-propositional variety of intentionalism. For example, some intentionalists hold that the contents we EX are *properties* (Pautz 2007). But for my purposes, the choice between propositional and non-propositional varieties of intentionalism doesn't matter, so I work with a propositional variety for simplicity.

However, there is a question about what sort of propositions are well-suited to the intentionalist's theoretical aims. The standard space of theories divides into *coarse-grained* views, *fine-grained* views, and *hyper-fine-grained* views. On coarse-grained views, propositions are no more finely individuated than the sets of possible worlds at which they are true. Usually, the coarse-grained view identifies a proposition with the set of possible worlds at which it is true. On fine-grained views, however, propositions are—as the name suggests—more finely individuated. They are typically thought to be complexes—structured or otherwise—of familiar worldly entities like particulars, properties, kinds, and so on. On hyper-fine-grained views, propositions are even more finely individuated. Rather than identify propositions with complexes of objects and properties, the hyper-fine-grained view identifies them with 'modes of presentation' of objects and properties. But since the relation between an object or property and its modes

of presentation is one-to-many, the hyper-fine-grained view recognizes even more distinctions between propositions than its fine-grained cousin.

Intentionalists tend to go in for the second of these three views—the fine-grained view. The reason for this, I suspect, has much to do with the *transparency of experience*. The idea behind transparency is that whenever you try to introspectively attend to one of your perceptual experiences, the *only* things you end up attending to are things in the external environment. An example: At the moment, I see a bright red cardinal outside my window. It periodically flaps its wings, adjusting its position on the bird-feeder, causing the sunlight to strike its feathers at varying angles. As I attend to my visual experience upon seeing the cardinal, I am presented with various colors and shapes—in particular a bright shade of red and a well-defined cardinal-shape. If these are properties of anything, they are properties of the cardinal. Indeed, try as I might, any effort to turn my attention inward to my experience results in my attention being turned outward, back onto the external world—or so the proponent of transparency would have us think.

Now, if having an experience is just a matter of EX-ing a fine-grained proposition, then there is a fairly natural explanation of this: the fine-grained propositions we EX are propositions that have mind-independent objects and the properties of those objects as *constituents*. When I attempt to attend to my experience of the cardinal, the reason that I attend to the cardinal and its properties is because I attend to the content of my experience—*i.e.* the proposition I EX—and this content has the cardinal and its properties as constituents. If I want this explanation, I need a fine-grained account of propositions. Since transparency is one of the main reasons that so many have flocked to

intentionalism, I am going to assume a fine-grained account of propositions here—at least as far as the propositions we EX are concerned.[20]

While I am on the topic, let me give two other reasons that you might be inclined to accept intentionalism. One is that the intentionalist looks to be able to explain cases of perceptual illusion in a way that is analogous to how we would explain cases of false belief. If I believe that there is a red chair before me, but there is not, then what I believe is false and I have a false belief. Similarly, suppose it perceptually seems to me that there is a red chair before me, but there is not. The intentionalist explains this in terms of my EX-ing a false proposition to the effect that there is a red chair before me. Illusory experiences are, in a certain sense, just like false beliefs.

Another (under-appreciated) reason for accepting intentionalism is its theoretical elegance. The idea that there is some bifurcation of mental kinds—intentional and non-intentional—might seem to produce an unlovely account of mentality. Surely it would be better if we were able to endorse a unified picture on which all mental phenomena are, in some sense, of the same basic kind. Intentionalism, in my view, is the only plausible theory of perceptual experience that is capable of this. It shows us how perceptual experience—though special in a variety of respects—is just one among many intentional attitudes.

I want to flag that weaker varieties of intentionalism are available. For example, the intentionalist might merely hold that any two subjects who are intentional duplicates are experiential duplicates—*i.e.* she might hold that experience *supervenes* on the intentional. Or she might hold the converse: any two subjects that are experiential duplicates are intentional duplicates. Alternatively, she might hold that to have an experience of a given

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[20] In the case of thought, the propositions might be hyper-fine-grained.

sort is *grounded* in bearing a kind of intentional attitude to a content or, again, vice versa: that bearing an intentional attitude to content is grounded in having certain sorts of experiences. She might even hold that the grounding relation is a partial one: having an experience is merely partially grounded in bearing an intentional attitude to a content. At any rate there are many varieties of intentionalism that we could investigate. However, for present purposes, I am interested in the stronger, identity formulation I've given above.

2.2 Naïve Realism v. Intentionalism

Naïve realism gets its name because, on the face of it, it seems to be something like the view of experience that many of us have prior to engaging in philosophy or science. For instance, naïve realists often say things to the effect that "perception, as such, simply places our surroundings in view" (Travis, 2004: 65), that "perceptual experience [is] fundamentally a relation between the subject and the things experienced (Campbell, 2011: 1), or that

> the actual objects of perception, the external things such as trees, tables and rainbows, which one can perceive, and the properties which they can manifest to one when perceived, partly constitute one's conscious experience (Martin, 2009 [1997]: 93)

There seems—just on the face of it—something deeply intuitive about all this. It really *does* seem that our perceptual experience puts us into a sort of unmediated contact with things in the outside world. The naïve realist captures this intuitive point and runs with it, developing a full blown theory of perceptual experience.

However, naïve realism is supposed to be a competitor to intentionalism. This is why, in recent years, philosophers have sought to reconcile the two views.[21] But I think it is worth taking a step back and trying to see exactly where the apparent conflict is. What *exactly* is anti-intentionalist about naïve realism?

Let's impose two constraints on this search. First, whatever the supposed disagreement between intentionalists and naïve realists is, it is *not* that the naïve realist is committed to *disjunctivism* whereas the intentionalist is not.[22] To get a handle on what disjunctivism is supposed to be, imagine you veridically perceive a red apple and are having experience VA. Suppose now that you hallucinate a red apple and have experience HA. The so-called 'common factor theorist' will say that these experiences are of *precisely the same kind*—they are identical. However, on disjunctive theories, there is some deep divide between the two. What it is to have an experience in veridical perception is much different than what it is to have an experience in hallucination. Having a 'red apple experience' is *either* a matter of having some sort of property *or* a matter of having some other sort of property. I grant that, for reasons that will become obvious, the naïve realist is committed to disjunctivism. However, I doubt that this is the *source* of conflict between the two views. This is for two reasons. First, it just so happens that some varieties of intentionalism (e.g. Tye 2009) *are* versions of disjunctivism. They are disjunctive at the level of content—to have a veridical experience is to EX a singular proposition whereas to have a non-veridical experience is to EX a 'gappy' proposition. Another reason to think that the dispute between common factor theorists and

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21 I have in mind Logue (2014), Mehta (2014), Nanay (2015), Schellenberg (2010, 2014), and Tye (2014). Hints of a reconciliation similar to the one I seek can be found in McDowell (2013).

22 Pautz (2010a) gives a nice overview of the varieties of disjunctivism.

disjunctivists is not central is that naïve realists *themselves* often tend to proceed as if we are faced with a choice between naïve realism and intentionalism *independently* of the issue of disjunctivism. M.G.F. Martin (2002), for example, dedicates an entire paper to settling the dispute between naïve realists and intentionalists *without* raising the matter of disjunctivism. Similarly, some philosophers—like Heather Logue (2012, 2014)—make it their explicit goal to show that naïve realism and intentionalism are *compatible*. This is supposed to be surprising. So I take it that there is at least some implicitly shared belief that intentionalism and naïve realism are *prima facie* at odds with one another.

Second, I want to know what *positive* thesis is endorsed by naïve realists that renders their view anti-intentionalist. For there are obviously *negative* theses that, if baked into either theory, would render the views incompatible. For example, if the naïve realist—as she often does—explicitly denies that anything like contents or intentional attitudes are involved in a correct theory of perceptual experience, then there is some sort of incompatibility between intentionalism and naïve realism. But this seems to me a fairly superficial sort of incompatibility. Any two theories can be rendered incompatible by appending to one the denial of the other. I want to know what it is about naïve realism that suggests the falsity of intentionalism in the first place.

2.2.1 Constitution

To do this, let's take a look at some positive naïve realist theses—starting with the one I used to introduce the view. The naïve realist, as Martin puts it, holds that

> **Constitution:** In veridical cases, perceived objects and their properties partially constitute the subject's experience.

So, for example, when I see a red cardinal, and the cardinal is as it looks to me, the experience I have is a veridical one and the naïve realist will say that my experience is, in some sense, just a relation between me and a state of affairs out there in the world: namely, the cardinal's being red—a state of affairs that has the cardinal and its redness as constituents. It is sometimes suggested that this principle distinguishes the naïve realist from the intentionalist. For example, James Genone writes that

> when naïve realists claim that perceived objects and properties are constitutive of perceptual experience…[their] idea goes against most mainstream views about the nature of consciousness associated with [intentionalist] theories of perception. (2016: 9)

Similarly, Matthew Kennedy, in arguing that transparency supports naïve realism but not intentionalism, writes that it is a "commitment" of intentionalism that "material objects are not constituent-objects of veridical experiences" (2009: 580).[23]

I find these remarks puzzling. In fact, many intentionalists have explicitly endorsed something like the constitution thesis. As mentioned in the last section, in order to accommodate the transparency of experience, intentionalists often hold that the propositions we EX are fine-grained propositions with worldly objects and properties as constituents. Some even say that these propositions are something like *states of affairs* composed out of perceived objects and their properties. Michael Tye, for example, writes:

> [w]hat is the robustly nonconceptual content of an experience? One answer is that such a content is a set of possible worlds. Another answer is

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[23] Kennedy goes on to qualify this point, seemingly acknowledging that there may be exceptions to the claim. However, it is misleading to say that this is in any way a commitment of intentionalism in the first place.

> that each robustly nonconceptual content is a possible state of affairs built out of worldly entities…Of these two accounts, I prefer the second…In my view, objects and properties enter into the contents of visual experience. (2009: 104)

So, for example, when you see the cardinal, Tye would hold that you EX the state of affairs of that very cardinal's being red. The example generalizes. The intentionalist may endorse the following:

> **Intentionalist Constitution:** In veridical cases, the states of affairs that we EX are states of affairs with external objects and properties as constituents.

And, in this sense, our experiences *do* have perceived objects and properties as constituents. So if there is conflict between intentionalism and naïve realism, it is not here. The constitution thesis admits of intentionalist precisification.

2.2.2 Factivity

Perhaps instead the conflict is in the *relation* that we bear to perceived objects and properties. According to Martin, the naïve realist holds "that one could not be having the very experience one has, were the objects perceived not to exist, or were they to lack the features they are perceived to have" (2009 [1997]: 93.) Similarly, Fish writes:

> The distinctive feature of naive realism lies in the claim that, when we see the world, the subject is acquainted with…mind-independent objects and their features—where 'acquaintance' names an irreducible mental relation that the subject can only stand in to objects that exist and features that are

> instantiated in the part of the environment at which the subject is looking. (2009: 14)

The relation that the naïve realist thinks we bear to the objects and properties that are constituents of our experiences has a certain modal property. It is, as I will put it, *factive*:

> **Factivity:** The relation that a subject bear to objects and properties, when those objects and properties are constituents of her experience, is such that it could not hold unless the relevant objects existed and instantiated the properties she experiences.

For precisely this reason, naïve realism seems incapable of accounting for *non-veridical* experiences—like illusion—where a thing is experienced to be a way that it is not. To see why this might be a problem for the intentionalist, think about how she tends to handle cases of illusion. She will say that we EX a false fine-grained proposition which, following Tye, I will assume is a state of affairs. If EX-ing were factive, then I would not be able to bear it to states of affairs that fail to obtain. But suppose then that I see a green ball but it looks red to me. The intentionalist will say I EX the state of affairs *the ball's being red*—a state of affairs that does not obtain. But if this is right, then EX-ing cannot be factive. I can bear it to properties that are not instantiated by the objects I experience.

Factivity does, on the face of it, seem to be something that the intentionalist cannot embrace. But this is only if we needlessly constrain intentionalism. There is no reason that the intentionalist must model EX-ing on believing. As Adam Pautz puts it:

> Intentionalism says only that experiences are relations to contents. But some relations to contents, for instance desiring and entertaining in thought, do not have a mind to world direction of fit. So even when they

> have a false content, one cannot say that the states themselves are inaccurate, or in error. Maybe it is the same with experiences. They tend to induce beliefs because they have a rich phenomenology. But maybe, unlike beliefs, they themselves do not have a mind to world direction of fit…Error only enters the picture when the subject takes the experience at face value and forms a false belief. (2009, 498)

EX-ing, for all the intentionalist has said, may be best modeled as a desire-like relation or a relation like entertaining in thought. The point is that the intentionalist needn't decide just by virtue of being an intentionalist. She may freely choose—evidence permitting—which of the intentional attitudes serves as the best model for EX-ing.

In fact, the intentionalist may model EX-ing, not on believing, but on *knowing*. That is, like knowing, she may take EX-ing to be a *factive* attitude. Knowing is factive just in the sense that, necessarily, if S knows that p, then p is true—the knowledge relation cannot obtain between subjects and false propositions. The intentionalist may say something similar of EX-ing. The relation cannot obtain between subjects and false propositions. But since the propositions in question are just states of affairs, we replace the notion of being true with the notion of *obtaining*. If so, this gives us:

> **Intentionalist Factivity:** In veridical cases, EX-ing is factive in the sense that, necessarily if a state of affairs is EX-ed, then that state of affairs obtains.

This, I take it, is clearly an intentional precisification of the factivity thesis.

You might wonder though how the intentionalist can say this. Isn't her thesis fully general? And if so, what is she going to say about cases of illusion? The solution here is

relatively straightforward. It begins by noting that there is no need to assume that the intentionalist must appeal to the *same* attitude across all cases of experience. For example, in an intentionalist mood, Tim Crane writes,

> the difference between feeling one's leg to be damaged and seeing it to be damaged is just the difference between *feeling* and *seeing*. In other words, it is a difference in what…I call *mode*, and what others would call *attitude*. We already know that sameness of content does not suffice for sameness of mental states in general; a belief and a hope might have the same content. So why should we expect that it suffices for sameness of phenomenal states…? (2014, 480)

I do not agree with Crane's initial remark, but I think he is illustrating an important point. The intentionalist could appeal to different attitudes when there is a difference in sense modality. But she could also appeal to different attitudes when there is a difference in *veridicality*. Suppose that the intentionalist recognizes a distinction between two attitudes: EX-ing and *NEX-ing*. In veridical cases, our experiences consist in EX-ing contents, but in non-veridical cases, they consist in NEX-ing contents. What's the difference? NEX-ing, unlike EX-ing, is an attitude much like believing in that it is non-factive. So, the intentionalist could very well accept factivity if she wished and hold a fully general version of her view. This is not where the essential conflict between intentionalism and naïve realism resides either.

2.2.3 Phenomenal Constitution

But perhaps this raises a worry. Maybe factivity doesn't accurately capture what the naïve realist wants to get at in the first place. Consider something that William Fish, in his illuminating book-length defense of naïve realism, claims:

> the central feature of visual perception that the naive realist is trying to codify is the idea that, when we see the world, the objects that inhabit the environment, together with their properties and other features, shape the contours of the subject's conscious experience. (2009: 49)

Fish seems to spell out the idea of 'shaping' in terms of a modal notion—what I have called 'factivity'. Yet I think the intuitive idea he is trying to capture is better suited to the tools of 'postmodal' metaphysics. The reason that I think this has to do with the explanation that Fish gives of the 'shaping' metaphor—a metaphor he borrows from Martin (2004: 64). He claims that 'shaping' is

> to be read in a constitutive rather than a merely causal sense. Consider the following scenario: looking down at a glacial valley, I say to you, "Can you see how the glacier shaped the contours of the landscape?" Here, 'shaping' is being used in a causal sense—the glacier shaped the contours of the landscape by causing the elements of the landscape to be the shape they are. On this reading of 'shaping,' the claim that external objects "shape the contours" of conscious experiences would in fact be compatible with *any* metaphysically realist theory of perception. But if I were to ask instead, "Can you see how the sides of the hills shape the contours of the landscape?" I would be using 'shaping' not in a causal sense but rather in a

> constitutive sense—on this reading, the hillsides shape the contours of the landscape by actually being the contours of the landscape. This, I suggest, is how we should understand the naive realist's claim that external objects and their properties shape the contours of the subject's conscious experience: they shape the contours of the subject's conscious experience by actually *being* the contours of the subject's conscious experience. (2009: 6)

So, to stick with the analogy, the hillsides shape the contours of the landscape by *being* the contours of the landscape. I can only read this as an *identity* or a *constitution* claim: the contours of the landscape are identical with or constituted by the hillsides themselves. It therefore seems to me that the core idea that Fish is trying to capture, when imported to the domain of experience, must be something like this:

> **Phenomenal Constitution:** In any case of veridical experience, the experience's phenomenal character is identical with or constituted by an actually-obtaining, external state of affairs.

The phenomenal character of a given experience is, as it is so often put, *what it is like* to have that experience. There is something it is like for you to have the experience that you do when you see a red apple. The naïve realist claims, in effect, that what it is like *is* or *is constituted by* an obtaining mind-independent state of affairs consisting in the apple's being red and apple-shaped. As John Campbell puts it:

> the phenomenal character of your experience, as you look around the room, is constituted by the actual layout of the room itself: which particular objects are there, their intrinsic properties, such as colour and

> shape, and how they are arranged in relation to one another and to you. (2002: 116)

Can the intentionalist accept this?

Again, the answer is yes. If this is what the naïve realist is after, then the intentionalist is happy to oblige. Usually, the intentionalist holds that the phenomenal character of a given experience is constituted by the proposition that is EX-ed in having that experience. But, as I have been stressing, because of the phenomenon of transparency, the intentionalist tends to hold that EX-ed propositions are states of affairs built out of worldly objects and their properties. Tye, for example, writes that

> What my experience is like—what is often called 'the phenomenal character of my experience'—is not a property of my experience. The only properties of which I am aware are external properties, including the color red. So, the phenomenal character of my experience is a cluster of external properties. In the simplest case, it is just the color red. (2015: 484)

This gives us something like:

> **Intentionalist Phenomenal Constitution:** In any case of veridical experience, the experience's phenomenal character is constituted by its content and an actually-obtaining, external state of affairs is its content.

When you see the red apple and EX the apple's being red and apple-shaped, the character of your experience *is* constituted by that very state of affairs. Moreover, in veridical cases, that state of affairs actually obtains. So it seems that the intentionalist does have a view on which the external environment 'shapes' the contours of one's experience. Again, there just does not seem to be conflict here.

2.2.4 Phenomenal Grounding

But maybe naïve realists are after an even *more* ambitious claim—although it is not one that they have, in my view, adequately articulated.[24] Perhaps they do not just want to say that external states of affairs constitute the character of our veridical experiences. Rather, what they want to say is that it is partly *in virtue of* external states of affairs obtaining that our veridical experiences have the characters that they do.

> **Phenomenal Grounding:** In veridical cases, it is the obtaining of a certain mind-independent state of affairs that partially grounds the fact that a subject has an experience with a given phenomenal character.

Here's the thought. Suppose I have a red light. The light flashes on and off more or less at random. For the past few minutes though, the light has been on. Suppose that I also have an apple of precisely the same shade of red. The color of the light, then, is identical with the color of the apple—they have the same color. If 'shaping' were merely identity or constitution, then the color of the apple would shape the color of the light. But this is clearly not what the naïve realist has in mind and would serve as a poor metaphor for her view of experience. Rather, it seems to me that what she wants is something like this. Suppose I build a large robot and make the red light one of its eyes. As the light flashes red, one of the robot's eyes will be red. The color of the light 'shapes' the color of the robot's eye in the following sense: it is the fact that the light is red that partially grounds the fact that the robot's eye is red. Put differently, but equivalently for my purposes, it is the obtaining of the state of affairs *the light's being red* that partially grounds the fact that the robot has a red eye.

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[24] Heather Logue (2014) comes close.

Phenomenal grounding seems to me a better candidate for a positive, anti-intentionalist, pro-naïve realist claim. For now it is a bit harder to see how the intentionalist can agree with the naïve realist. When you see a red apple, the naïve realist will say that the character of your experience is partially grounded in the fact that the state of affairs *the apple's being red and apple-shaped* obtains. Now the intentionalist *can* say that (1) the apple's being red and round grounds the character of the experience and (2) this state of affairs obtains. But this doesn't quite capture the phenomenal grounding claim. It is not just that an obtaining state of affairs grounds the character of your experience. Rather, it is the very fact *that the state of affairs obtains* that grounds the character of your experience. But to secure this, it's not enough that EX-ing is factive or even that EX-ed states of affairs are constitutive of phenomenal character. That a relation is factive is a modal claim, and modal claims are, in general, not enough to secure grounding claims—just because the relation could not have obtained if the relevant state of affairs had not doesn't mean that the obtaining of the relation is grounded in the obtaining of the state of affairs.

What would it take for the intentionalist to be able to accept the grounding claim? Well first, to be clear, *grounding* is an irreflexive, asymmetric, and (maybe) transitive relation that may hold between entities of different ontological categories (e.g. between facts and objects, properties and events, states of affairs and dispositions, etc.). I think we have a decent pre-theoretical grasp of this relation. For example, it is the salient relation that the members of a set bear to the existence of the set itself, that the molecular structure of a mug bears to the mug's fragility, that the truth of a disjunct bears to the truth of a disjunction, and so on. Its converse is the relation of (metaphysical) dependence. The existence of a set depends on the existence of its members, the mug's

fragility depends on its molecular structure, the truth of a disjunction depends on the truth of one or more of its disjuncts.

Now, if we assume (as is reasonable) that the intentionalist thinks that to have an experience with a given phenomenal character just is to EX a certain proposition, then she would have to say something along the following lines: subject (at least in veridical cases) EXs that *p* partly in virtue of the fact that *p*. Or, equivalently for my purposes, a subject EXs a state of affairs in veridical cases partly in virtue of the fact that the state of affairs obtains. However, all this is—on the intentionalist picture—is an interesting *metasemantic claim*.

> **Intentionalist Phenomenal Grounding:** A subject (at least in veridical cases) EXs that *p* partly in virtue of the fact that *p*.

As I understand it, a metasemantic claim is one that tells us what grounds the obtaining of some intentional relation or another. For example, a metasemantic theory of, say, sentences in English will tell us in virtue of what an English sentence means what it does. More precisely, it will offer a metaphysical explanation of why certain symbols bear the meaning-in-English relation to certain entities in the relevant set of meanings. There are of course various metasemantic proposals available to the intentionalist—like Dretske's teleosemantic-account (1995) and Tye's causal covariation account (1995). However, this is—I think all will agree—one of the areas of intentionalism that is still in its infancy. The best that we have at the moment are really "theory sketches" (Byrne and Tye 2006: 253) that are programmatic and merely suggestive of the direction in which a completed theory might reside. This is all just to say: the intentionalist should be, and generally is, *open* to various possibilities for metasemantic theories. She does not usually bake any

particular theory into her view. But to that extent, she could very easily endorse a 'naïve realist' metasemantics. She could say that, in veridical cases, a subject EXs that *p* at least partly in virtue of the fact that *p*. And that means that she can accept the phenomenal grounding claim. It is, in effect, just a specific kind of metasemantic proposal on her view.

2.3 Some Consequences for Future Theorizing

I ask again: what positive claim does the naïve realist endorse that the intentionalist cannot? I confess that I find nothing. Every core naïve realist claim admits of intentionalist precisification. For this reason, the intentionalist—I suspect—could very well be a naïve realist if she pleased.

This has at least two upshots.

First upshot: An argument for naïve realism is not *ipso facto* an argument against intentionalism. Suppose that I gave an epistemic argument for, say, factivity. The argument is that only by endorsing factivity can we avoid a certain sort of external world skepticism. Suppose that I have the experience that I typically do upon seeing a red rectangle. In fact, I do see a red rectangle—call it 'r'—and it is red and rectangular. So, the experience is veridical. Seemingly, when I have such an experience, I am in a position to *know* that there exists a red, rectangular thing. Moreover, I am in such a position *precisely because* I have the experience I do. How does my experience put me in such a position? The naïve realist has a plausible story. According to him, my experience "makes that knowledge available by making present to [me] a state of affairs consisting in there being something red and rectangular" (McDowell, 2013: 144-5). That is, it makes knowledge possible because in having the experience I bear a factive relation to the

relevant state of affairs. Indeed, the mere existence of my experience *entails* that the state of affairs obtains. If so, then my experience looks as strong a piece of evidence as I can get for the existence of a red, rectangular thing. No such story is (plausibly) available on other views. Hence, we ought to accept naïve realism.[25] But note: even if this is an argument for factivity, and hence for naïve realism, it is not an argument against intentionalism. Factivity admits of an intentionalist precisification.

Second upshot: There is a version of intentionalism that closely emulates naïve realism. In effect, it simply conjoins intentionalism with a naïve realist metasemantics and holds that EX-ed propositions are fine-grained propositions. Intentionalism and naïve realism are, in this way, compatible.

However, I want to point out that my story about their compatibility differs from the norm. The typical story is that intentionalism and naïve realism may be reconciled once we *divide up* the explanatory tasks of a theory of perceptual experience and then assign some of those tasks to the intentionalist and others to the naïve realist. Heather Logue provides a clear example of this sort of strategy, writing that:

> a philosophical theory of perceptual experience has several explanatory tasks: in particular, it is supposed to explain the epistemological, behavioral, and phenomenological aspects of experience. Thus it is in principle possible to divide the labor across Naïve Realism and [Intentionalism]: say, the latter explains the epistemological role of experience while the former yields an account of the phenomenal

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[25] Let me make it clear: I do not endorse this argument.

> character of experience and the role it plays in facilitating action… (2014: 237)

Logue's idea is that if we assign the parties different aspects of experience as their explanatory targets, then their theories will not conflict. The intentionalist accounts for some aspects of experience and the naïve realist accounts for others.

This is a sort of trivial reconciliation. If we assign the views distinct explanatory tasks *it's no wonder* that they end up being compatible. This division, I think, is unnecessary. My strategy for reconciliation is merely to show that, in truth, there's no deep incompatibility between intentionalism and naïve realism in the first place. The intentionalist and naïve realist may jointly build a single theory—one that withstands scrutiny from both sides.[26]

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[26] Some naïve realists may actually agree with me on this matter. Harold Langsam, for example, writes that "reflection on the phenomenal character of experience suggests a naïve realist view of the ontological nature of experience, for it suggests that an experience is a relation between a subject and an external object" (2016: 6). But he immediately qualifies this by saying that:

> We use various terms to refer to this relation: I am aware of the tomato, I am conscious of the tomato, the tomato is present to me, the tomato is appearing to me, the tomato is before my mind. None of these terms tells us anything additional about the relation; they are just labels for referring to that relation that has already been identified, the relation that enables the properties of the object perceived to figure in the phenomenal character of the experience. (ibid)

He then goes on in a footnote to say that this relation could, for all he has said, be "in part, a representational relation" (ibid, fn. 11). On this view, some version of intentionalism might be a form of naïve realism. But otherwise, I think naïve realism has been advertised falsely. It is not *really* a competitor to intentionalism at all. At worst, the intentionalist can simply think of naïve realism as a fringe variety of intentionalism. But fringe varieties of intentionalism are still varieties of intentionalism.

3. The Representational Limits of Perception

Wittgenstein (in)famously claimed that language has *expressive* or *representational* limits. According to him, the only things we may express in language—the only things that we may *say*—are "propositions of natural science" (1922, 6.53). Everything else is linguistically "inexpressible" (ibid, 6.522). His view, I doubt I need to argue, is mistaken. Surely we can express more than this. Surely this is not all there is to be said.

Still, even if one disagrees with Wittgenstein about the limits of language, representational kinds do often have representational limits. Consider, for example, pictorial representation. Fred Dretske observes that although:

> I can say that A and B are of different size without saying how much they differ in size or which is larger… I cannot picture A and B as being of different size without picturing one of them as larger and indicating, roughly, how much larger it is. (1981, 137)

The idea is that, in pictorial representation, certain features cannot be representationally *isolated*.[27] If one pictorially represents that a cube and sphere differ in size, one must also pictorially represent which of the two is larger. There's simply no way around it. However, this is false of linguistic representation. It is obviously possible to linguistically represent that a cube and sphere differ in size without linguistically representing which is larger. (Witness any instance of the sentence 'the cube is not the same size as the

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[27] There are, in fact, many kinds of pictorial representation, but I am simplifying for the sake of illustration. For more on various pictorial and iconic systems of representation, see Giardino and Greenberg (2015) and Greenberg (2013).

sphere'.) In this sense, the two representational kinds—pictorial representation and linguistic representation—differ in their representational limits.

I take it that this sort of phenomenon will be relatively familiar. However my concern here is not with the representational limits of pictures or language. I am interested in the representational limits of *perception* or, more precisely, *perceptual experience*. For although many think that perceptual experience has representational aspects—indeed, many think that, in some sense, it has them *essentially*—few have considered whether it has representational limits and, if so, what its representational limits might be.[28] My goal here will be to focus on certain properties that perceptual experiences cannot representationally isolate and show how this phenomenon bears on theories of perceptual experience. Specifically, I will show how these limits constrain and even cut short certain attempts to reduce perceptual experience to naturalistic ingredients.

Here's a roadmap. First, I will discuss the role that representation plays in contemporary attempts to 'reduce' perceptual experience (Sect. 1). Next, I will make a case that, given this role, perceptual experiences cannot representationally isolate a range of properties, though the properties that will concern me most will be *color properties* (Sect. 2). Then, I will show how this causes trouble for certain reductive theories of perceptual experience (Sect. 3). Finally, I will consider a number of objections to my arguments and, in doing so, gesture at how we ought to proceed in light of the representational limits of perception (Sect. 4).

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[28] Some have discussed these limits. For example, see Adam Pautz (2016, forthcoming) and Jeff Speaks (forthcoming). Suggestive remarks are made in passing by Brian Cutter (2016), Mark Johnston (n.d.), and Colin McGinn (1983).

3.1 Phenomenal Representation and Bridging the Explanatory Gap

The latter portion of the 20th Century witnessed what we might call the *Intentionalist Revolution* in the philosophy of mind. Philosophers, emboldened by several promising book-length projects, began to think that there was an essential connection between which qualities *phenomenally characterize* an experience and what that experience represents.[29] The idea is straightforward enough. Suppose that you are looking at a red ball and undergoing a visual experience. As you have this experience, a number of qualities will be immediately present to you—intuitively, and among other things, a number of colors and shapes, most saliently *redness* and *roundness*. These qualities characterize what it is like for you to have the experience of seeing a red ball in the sense that any complete description of what it is like for you to have the experience would have to appeal to them. In this sense, they *phenomenally* characterize your experience. However, there is also a strong intuition that your experience represents redness and roundness as qualities of *the ball*. Your experience 'says' that the ball is red and round. And if what it is says is not so, then it misleads you, and you are subject to a perceptual illusion.

Members of the Intentionalist Revolution—*intentionalists*—hold that this is no coincidence. There is some intimate connection between which qualities characterize your experiences and which qualities your experiences represent. The most obvious connection is *identity*:

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[29] I have in mind Dretske (1995), Lycan (1996), and Tye (1995).

> **Intentionalism:** There is a unique representational kind K such that, for any quality Q, being phenomenally characterized by Q is identical with K-ly representing Q.[30]

What exactly is meant by 'represent' here? And what is a representational kind? We can rely on commonsense examples of representation as a guide. Utterances, sentences, words, maps, pictures, diagrams, paintings, thermometers, speedometers—all these things have representational features. A painting, for example, may represent a certain scene; a speedometer may represent the speed of a car; a sentence may represent a state of affairs. However, the way in which a painting represents a scene and a sentence a state of affairs are distinct in kind. Paintings represent scenes *pictorially* whereas sentences represent states of affairs *linguistically*. With these examples in mind, let us call the representational kind that satisfies the conditions specified by intentionalism *phenomenal representation*. The intentionalist's idea is that *what it is* for a quality to phenomenally characterize your experience is for your experience to phenomenally represent that quality.

Intentionalism, though popular, is still controversial. But there are good reasons to accept the view and, if not accept it, then take the possibility of its truth very seriously. One prominent reason is its seemingly unique ability to offer a straightforward path across the *explanatory gap*—one of the most prominent obstacles to a naturalistic theory of consciousness. The thought: It is independently plausible that intentionality can be

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[30] See Byrne (2009), Cutter (2018), Dretske (1995, 2003), Hill (2009), Jackson (2004), Levine (2010), Pautz (2016), Thau (2002) and Tye (1995, 2000, 2002, 2009, 2014) for this variety of intentionalism. Though I work with an identity thesis, a necessarily true biconditional would work for my purposes here (*e.g.* necessarily, something is phenomenally characterized by Q iff it phenomenally represents Q).

reduced to some complex of naturalistically acceptable ingredients. But if phenomenology reduces to a kind of intentionality, then it seems that phenomenology can be reduced to naturalistically acceptable ingredients as well. What this does, in effect, is break a 'hard problem' into two 'easy problems'. We have trouble seeing how phenomenology could—in one fell swoop—reduce to something physical. However, we do not have anywhere near as much trouble seeing how phenomenology could reduce to something intentional. After all, most of the arguments for intentionalism are (broadly speaking) *a priori*. Relatedly—though constructing such an account is hard—we do not have any in principle difficulty in seeing how intentionality or representation could reduce to something physical. So although we cannot see how to get across the explanatory gap *all at once*, reductive intentionalism shows us that we *can* see how to get across two smaller gaps that, once crossed, allow us to cross the explanatory gap.

The idea might be precisified as follows: the relation of phenomenal representation can be *identified* with some physical, functional, or computational relation of some sort.

> **Reductive intentionalism:** Intentionalism is true and phenomenally representing a quality is identical with bearing some physical, functional, or computational relation to that quality.[31]

Why work with identity rather than, say, *ground*? To be clear, *grounding* is (likely) an irreflexive, asymmetric, and transitive relation that may hold between entities of different ontological categories (e.g. between facts and objects, properties and events, states of affairs and dispositions, etc.). I think we have a decent pre-theoretic grasp of this relation. For example, it is the salient relation that the members of a set bear to the existence of the

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[31] See Dretske (1995), Lycan (1996), and Tye (1995, 2000, 2009) for reductive varieties of intentionalism. I'm assuming here that the relevant qualities can also be reduced, of course.

set itself, that the molecular structure of a mug bears to the mug's fragility, that the truth of a disjunct bears to the truth of a disjunction, and so on. Its converse is the relation of (metaphysical) dependence. The existence of a set depends on the existence of its members, the mug's fragility depends on its molecular structure, the truth of a disjunction depends on the truth of one or more of its disjuncts, and so on. I do not work with ground because it seems to me that it is not the right tool to articulate theses that concern reduction. When we look to reduce *x* to *y*, what we aim to do—in some sense—is show that *x* is 'nothing over an above' *y*. Grounding does a poor job of capturing this intuitive thought. Consider a metaethical example. I might take it that actions are good *in virtue of* promoting happiness—an action's goodness is grounded in its promoting happiness. But I have not thereby reduced goodness to promoting happiness. I have not said that an action's goodness is 'nothing over and above' its promoting happiness. So, grounding does not seem the right tool to articulate reductive theses. Identity, however, does. If I had *identified* goodness with promoting happiness, then it seems I would have in some sense reduced the former to the latter. Goodness would be, on such a view, 'nothing over and above' promoting happiness.

The crucial question for the reductive intentionalist, of course, is *which* physical, functional, or computational relation should feature in her theory. There are several options here.[32] However, many agree that the most plausible theories are *teleosemantic*—they incorporate the notion of function (or telos) in order to reduce phenomenal representation. The differences between distinct teleosemantic theories are subtle. But of

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[32] See Pautz 2010b for a detailed summary of these options.

the available theories of this sort, one stands out as most plausible: Fred Dretske's *teleo-intentionalism*.[33]

> **Teleo-intentionalism:** Intentionalism is true and phenomenally representing a quality is identical with playing the cognitive-input role and having the biological function of indicating instantiations of that quality. (Dretske, 1995)

Let's unpack the key terms: 'cognitive-input role', 'biological function', and 'indicating'. The *cognitive-input role* is a functional property that is had by an internal state of a subject—plausibly, at least in humans, a neural state of some kind—just in case that state is of a kind that is typically an output of a perceptual system and typically provides input to the cognitive system in order to regulate thought and behavior (ibid, 19). *Indication* is meant to be a familiar notion that we can get a grip on through examples. To use some of Dretske's favorites: the presence of smoke indicates fire; rolling storm clouds indicate rain; and the rings on a tree indicate its age. However, the notion of *biological function* is a bit trickier. Some examples are ready to hand: the (or a) biological function of the heart is to pump blood, the biological function of the lung is to extract oxygen from the air and transport it to the bloodstream, the biological function of a molar is to crush and grind food, etc. Still, to get a better handle on the theory, we should like to say a bit more about what the relevant biological functions are and in virtue of what something has a given biological function.

According to Dretske, where phenomenal representation is concerned, the relevant biological functions are *systemic*. That is, they are biological functions possessed by

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[33] Indeed, even Tye (in conversation) now favors this theory over the theories he advocated in Tye (1995, 2000).

certain internal states of subjects that derive from the biological functions of the perceptual systems that generate those states (ibid, 15). On this view, a perceptual system first comes to have the biological function of indicating some *determinable* property (like color or shape), and then internal states generated by the system derivatively come to have the biological function of indicating *determinates* of the relevant property (like determinate colors or determinate shapes). How does a perceptual system come to have such a function? Plausibly, via its *evolutionary history*. Dretske "happens to favor the account of biological functions described by Godfrey-Smith 1994" (ibid, 169: fn4). Dretske is referring to Peter Godfrey-Smith's *modern history theory* of biological function. Put roughly, the modern history theory has it that the biological functions of *x* are determined by the features/facts in virtue of which (recent) selection pressures favored creatures with *x*. Specifically, *x* has *G* as a biological function in virtue of the fact that, in recent history, *x's* exhibiting *G* (under certain conditions) at least partially explains the fitness of organisms with *x*.

Putting this all together, we get something like the following picture. For concreteness, consider the human visual system. Part of the explanation of why having a visual system is adaptive is that, under environmentally normal conditions, the visual system indicates instantiations of color properties. Because the visual system's having this feature is adaptive, the visual system has the biological function of indicating the instantiation of color. Derivatively, states generated by this system have the biological function of indicating the instantiations of (relatively) determinate colors. So, for example, some states have the biological function of indicating *redness* whereas others have the biological function of indicating *blueness*. This, according to teleo-intentionalism, means that various states of the visual system—provided they play the

cognitive-input role—will phenomenally represent color properties like redness and blueness.

Here's where we are. We now have a representational kind in view—phenomenal representation. If this representational kind can be reduced, as the reductive intentionalist thinks it can, then we have a successful, naturalistic theory of perceptual phenomenology. What I want to suggest, however, is that the plausibility of this strategy—indeed, the plausibility of the entire reductive intentionalist research program—runs up against the limits of phenomenal representation. To see why, I will need to make a case that phenomenal representation *has* limits.

3.2 Phenomenal Isolation

We can all make sense of the idea of an experience 'as of' something red and round, or an experience as of something loud and far away. In fact, we can even make sense of certain experiences that are beyond our ken. For example, it seems (metaphysically) possible for there to be a creature that experiences more than three spatial dimensions—perhaps a creature that has experiences as of hypercubes, hyperrectangles, hyperspheres, and so on. Of course, we cannot have (or even imagine what it is like to have) these experiences. Still, they strike us as prima facie coherent—at least I can't see any reason why they wouldn't be possible. But, crucially, some descriptions of perceptual experiences are prima facie *incoherent*. If Lily the neuroscientist tells us that she has found a creature that has experiences as of round cubes, we will rightly regard Lily as confused. Perhaps the creature is having an experience as of something that is round and simultaneously having another experience as of something that is cube-shaped (perhaps one experience is visual and the other is tactile). But the suggestion that it has a single, unimodal experience as of

a round cube seems wrong. That is not an experience that any possible creature could have. And it is not just that we cannot imagine what it is like to have such an experience. Rather, it is that such an experience seems positively *impossible*.

Relatedly, certain experiences are impossible because certain qualities cannot be *phenomenally isolated* in perceptual experience—necessarily, if they phenomenally characterize an experience at all, then *other* qualities must also phenomenally characterize that experience. Suppose Lily now tells us that she has discovered a creature that experiences color but not *space*. We would likely give her an incredulous stare. Is the claim that the creature experiences colors but does not experience them as spatially extended or located? Is it that the creature has an experience as of a colored thing that is not an experience as of a spatial thing? I confess: I cannot make sense of either claim. Again, it is not just that I cannot imagine what it would be like to have such an experience. Rather, it is that these descriptions strike me as incoherent. Color seems to be the sort of thing that cannot be phenomenally isolated: any color experience would also have to be, in some way or another, a spatial experience. Just to drive this point home, I invite you to bring a red item before you. Attend to the redness that phenomenally characterizes your experience and ask yourself the following question: would it be possible for a subject to experience *this very quality* and yet fail to have an experience that is in any way spatial? Intuitively, no. If you subtract all spatial elements from an experience's character, then you subtract all redness—and indeed any color whatsoever—as well. Necessarily, any experience phenomenally characterized by a color property must also be phenomenally characterized by a spatial property.

This example isn't anomalous. Color is just *one* example of a property that cannot be phenomenally isolated, and there seem a number of other qualities that cannot be isolated in this way. Offhand, all of the following strike me as plausible.

1. *No shape without location*. It is impossible for a shape property to phenomenally characterize an experience without a location property phenomenally characterizing that experience.
2. *No pitch without volume*. It is impossible for a pitch property to phenomenally characterize an experience without a volume property phenomenally characterizing that experience.
3. *No motion without time*. It is impossible for a motion property to phenomenally characterize an experience without a temporal property phenomenally characterizing that experience.
4. *No pain without space*. It is impossible for a pain property to phenomenally characterize an experience without a spatial property phenomenally characterizing that experience.

Shape, pitch, motion, pain—none of these features can be phenomenally isolated. Whenever you find an experience whose phenomenology is characterized by (say) a motion property, you also find an experience whose phenomenology is characterized by a temporal property. Similarly, whenever you find an experience whose phenomenology is characterized by a pain property, you find an experience whose phenomenology is characterized by some spatial property—*e.g*. a spatial location property.

Now, here's the important point. If it is true that these properties cannot be phenomenally isolated, then they also cannot be representationally isolated by a perceptual experience, at least where phenomenal representation is concerned. For given

that being phenomenally characterized by a quality is *identical* with phenomenally representing it, this means that perceptual experiences must have representational limits. Consider the connection between color and spatial experience: necessarily, being phenomenally characterized by a color property requires being phenomenally characterized by a spatial property. If intentionalism is true, then being phenomenally characterized by a color property is identical with phenomenally representing a color property. Relatedly, being phenomenally characterized by a spatial property is identical with phenomenally representing a spatial property. By substitution, we get a limit of phenomenal representation:

> Necessarily, phenomenally representing a color property requires phenomenally representing a spatial property.

This means that, in phenomenal representation, color cannot be representationally isolated. In fact, per the list given above, phenomenal representation cannot representationally isolate a number of properties: shape is coupled with location, pitch with volume, motion with time, and pain with space. These are among the representational limits of perceptual experience. (And note: even if you grant that some properties, but not the ones I have listed, cannot be phenomenally isolated, then phenomenal representation will still have representational limits. They will just be different from the ones that I have given.)

I want to be clear: I am not merely making a claim about creatures *like us*. That is, I am not merely saying that humans or humanlike creatures cannot phenomenally isolate certain properties. I am claiming it is flat-out *metaphysically impossible* to phenomenally isolate these qualities and, correspondingly, that it is metaphysically impossible to isolate

the qualities in phenomenal representation. I don't take this to be a brute modal fact. Rather, it is somehow in the *nature* of phenomenal characterization that it is impossible for certain properties to be phenomenally isolated. There is something about the essence of phenomenal characterization itself that grounds or explains the modal facts. Exactly what it is about its essence that grounds such facts is hard to say. But it seems to me that, for quite general reasons, there must be a pre-modal explanation of this sort.

At any rate, I highlight the point since one might worry that such experiences are not *impossible*. Rather it is just that we cannot imagine what it is like to have them—that is, we cannot imagine what it is like to phenomenally isolate these properties. The thought seems to be that our belief that these experiences are impossible is explained by our inability to imagine them. In the case of color, for example, one might object that the mere fact that we cannot imagine what it is like to have an experience that phenomenally isolates color leads us to mistakenly believe that such an experience is impossible.

Of course, I grant that it is true that we cannot imagine what it is like to have such an experience. But this failure is not *itself* a very plausible explanation of why one might believe it is impossible to phenomenally isolate color. As I said previously, we often recognize that certain experiences are beyond our ken without thereby regarding them as impossible. Consider again the (merely possible) creature who experiences hypercubes. We cannot experience this shape and, moreover, cannot imagine what it is like to have such an experience. But our failure of imagination does not confuse us into thinking that such experiences are impossible. To give another example, bats and dolphins—owing to their capacity for echolocation—likely have experiences that put together sound and space in ways that we cannot imagine. Most of us do not know, and will never know, what it is like to be either of these creatures. To that extent, we cannot imagine what it is

like to have their experiences. Still, our inability to imagine what bat-experiences and dolphin-experiences are like does not lead us to think that they are impossible. The point is that, in general, the mere fact that we cannot imagine what it is like to have certain experiences does *not* lead us to believe that those experiences are impossible. It is not, therefore, a plausible explanation of why we think experiences that phenomenally isolate color are impossible.

A rather different sort of objection might be this. Color and space are constantly co-present in our experiences. We then, in Humean terminology, confuse their constant conjunction for a necessary connection. But really, there is no necessary connection between them at all.

This objection is odd. On the face of it, it takes something that is evidence *for* the necessary connection between color and space in experience and tries to convert it into a piece of evidence *against* it. How so? If there were a necessary connection between color and space in this way, *what we would expect* is that the former cannot be separated from the latter in our experience. At any rate, perhaps objection is this: we think the necessary connection holds *merely because* of the constant co-presence of color and space in our experiences, but this is *insufficient* evidence for the claim. I stress that, in my own case, this is not my *evidence* for believing that there is a necessary connection at all. Rather, my evidence for thinking that there is a necessary connection is something like the *appearance of impossibility*. Consider an analogy. I think that violations of Leibniz's Law—roughly, the principle that necessarily, if x and y differ in their properties (at a time), then they are distinct—are impossible. It is impossible for a pair of individuals x and y to be such that x and y differ in their properties (at a time), and yet $x = y$. What is my justification for accepting that this is impossible? Well, it just *seems* impossible. My

justification runs no deeper than this. But that it seems impossible provides me with at least some defeasible justification for thinking that it is impossible. Moreover, given the strength of the seeming and the absence of sufficiently strong defeaters, I contend that my justification is, as some would put it, all-out—I am justified in believing that violations of Leibniz's Law are impossible. Similarly, my justification for thinking that certain sorts of experiences are impossible is just that they seem impossible. Again, given the strength of the seeming and absence of sufficiently strong countervailing reasons, I may rationally accept their impossibility as well.[34]

Instead of challenging the *grounds* for accepting that there is a necessary connection between color and space—or any pair of qualities—in experience, one might try to directly challenge the claim itself.

First, one might push back on the generality of some of the proposed necessary connections. For example, some (like Jeff Speaks (forthcoming)) might hold that the necessary connection between color experience and spatial experience is modality specific. It holds of visual experiences, but does not hold of perceptual experiences generally. It is hard to properly address this challenge without giving a full-blown theory of how one ought to individuate the various sense modalities—something that is well beyond the scope of this paper. Accordingly, I cannot hope to give a complete reply here. However, I can give a partial reply based on my preferred theory of modality individuation. It seems to me that the senses are to be individuated in a 'quasi-Aristotelean' fashion.[35] That is, what individuates the senses are the properties with

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[34] I am, of course, appealing to a version of the principal of phenomenal conservatism here. See Huemer 2007.

[35] For an overview of the theoretical terrain on modality individuation, see Macpherson 2011.

which they acquaint us or, equivalently, which properties phenomenally characterize experiences generated by the relevant sensory system. In other words, each sense is associated with a characteristic set of properties and is individuated thereby. In the case of vision, I think that the characteristic properties *are* color properties. So, on my view, the answer is that, somewhat trivially, the claims I am making do apply only to visual experience. But this does not introduce any significant complications.

Alternatively, and focusing again on the example of color, one might object that there are *actual* counterexamples to the principle. Perhaps *chromesthesia*—a specific kind of synesthesia—shows that we may sever the alleged necessary connection between color experiences and spatial experiences. Very roughly, chromesthesia occurs in subjects that have color experiences that are triggered by auditory stimulation. When discussing chromesthesia loosely, we often say things to the effect that chromesthetic subjects 'hear colors'. Speaking this way might suggest that they are having auditory experiences of color but, perhaps, these auditory experiences are non-spatial experiences.

This is unconvincing. First, there is something slightly misleading about the description of chromesthetic individuals as 'hearing color'. A typical description of synesthesia is that: "a stimulus presented in one modality triggers imagery in another modality" (Baron-Cohen et al 1987: 761). If anything, this suggests that, in the case of chromesthesia, subjects are *not* having an auditory experience of color. Rather, an auditory stimulus triggers an ordinary color experience *i.e.* one that we would readily call visual. At any rate, whatever modality these experiences belong to, I know of no chromesthetic subject that reports having a color experience that is not a spatial experience. Quite the opposite. According to their reports, "colored shapes are said to appear, scintillate, and move around, then fade away only to be replaced by a

kaleidoscopic montage of colored photisms so long as the varying sound stimulus continues" (Cytowic and Eagleman, 2009: 39). This, to my ear, sounds like the description of a spatial experience. The bottom line is that there seems no good evidence that chromesthesia severs the necessary connection between color and space in experience.

That phenomenal representation is limited in these ways should not surprise us. As discussed in the introduction, the inability to isolate certain features is relatively common among more familiar kinds of representation. Recall that pictorial representation seems incapable of representationally isolating size differences. If one pictorially represents that two things differ in size, then one must also pictorially represent that one of those things is larger than the other. Another well-known example comes from Euler diagrams. In Euler-diagrammatic representation, circles represent sets and spatial overlap between two circles represents that the sets have a non-empty intersection. This has the result that if a Euler diagram represents that any three of a group of four sets has a non-empty intersection, then it must also represent that all four sets have a non-empty intersection. Why? Because it is provable that (roughly) if any three of four shapes partially overlap, then all four shapes overlap.[36]

3.3 A New Problem for Reductive Intentionalism

And now we run into our problem. If phenomenal representation has the limits I have argued it does, then teleo-intentionalism must be false, for it simply fails to respect these limits. To illustrate, I will focus on the coupling of color and space in phenomenal representation. The problem can be put in the form of an argument:

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[36] See Shin, Lemon, and Mumma 2013: section 2 for a detailed explanation.

P1. It is impossible for an experience to phenomenally represent a color property and not phenomenally represent a spatial property.

P2. If teleo-intentionalism is true, then it is possible for an experience to phenomenally represent a color property and not phenomenally represent a spatial property.

C. So teleo-intentionalism is false.

I am going to take it for granted that, given the remarks in the last section, it is reasonable to accept P1. This means the only premise that needs defense is P2.

Now, the justification for P2 is primarily that a perceptual system can quite easily come to have the biological function of indicating color properties without coming to have the biological function of indicating spatial properties. For, on the teleo-intentionalist model, perceptual systems are much like representational instruments fine-tuned by Mother Nature, and Mother Nature could have easily designed an instrument whose sole function was to indicate the presence of color.

To see why, consider an Earth-like planet in a world much like our own. On this planet—*Planet Birch*—there is a population of intelligent, human-like creatures that we may call *Treeple*. Like us, Treeple have an interesting collection of intentional states, they reason, they exhibit complex behavior, they have families and social groups, *etc*. However, unlike us, Treeple are mostly immobile and grow out of the ground. When mature, they reach staggering heights and develop leaf-like appendages on their branch-like arms. But life on Planet Birch is harsh. There are two suns—one red and one blue. When the blue sun is out, it turns the normally red skies of planet Birch purple and

produces a light far too harsh for the delicate leaves of Treeple. Thankfully, Treeple have evolved to accommodate this. Over millions of years of evolution, they developed a perceptual system that serves as a simple *colorimeter*. This system produces various internal states each of which (under normal conditions) indicates the instantiation of some unique color property. Unsurprisingly, the system's indicating the instantiation of color made Treeple with this perceptual system more evolutionarily fit. As a result, the system came to have the biological function of indicating color. Derivatively, states produced by this system came to have the biological function of indicating various determinate colors and, in particular, states of kind K came to have the biological function of indicating instantiations of *purple*.

Consider now a specific Tree-person named *Douglas*. On this particular occasion, Douglas finds himself beneath a purple sky. As the light from the sky strikes his leaves, he tokens a state of kind K and, as is typical of K-states in Treeple, it plays the cognitive-input role. In light of this, Douglas is able to take evasive action—he rolls up his leaves and alerts members of his community to the impending danger.

Here is the problem. Douglas's K-state has the following features: (1) its sole biological function is to indicate instantiations of purple and (2) it plays the cognitive-input role. This means that, if teleo-intentionalism is true, then Douglas's K-state phenomenally represents purple *and nothing else*. For on teleo-intentionalism, the property of phenomenally representing a quality Q is *identical* with the property of playing the cognitive-input role and having the biological function of indicating instantiations of Q. Douglas's K-state has only one biological function: to indicate instantiations of purple. Hence, by the lights of teleo-intentionalism, there can be only one thing it phenomenally represents, namely, the color purple. However, as I have

argued, no state of any possible subject can phenomenally represent color in isolation. It is a necessary truth that phenomenally representing a color property requires phenomenally representing a spatial property. Teleo-intentionalism predicts otherwise. It allows for color to be phenomenally represented in isolation. It must therefore be rejected.

3.4 Objections

Let me now consider some objections to the preceding argument. Most will consist in ways of denying P2.

3.4.1 TREEPLE ARE IMPOSSIBLE

Objection. It's false that the *sole* biological function of K-states is to indicate instantiations of purple. Why? Because Douglas's K-state must also have the biological function of indicating that purple is instantiated *nearby* or *around* . What makes the perceptual systems of Treeple adaptive is that they indicate a determinable *complex property* of being colored and spatially located. This is because, in Treeple's recent evolutionary history, their perceptual system's indicating the instantiation of the property *being colored & around* explains the fitness of Treeple with this perceptual system. Hence, the teleo-intentionalist will predict that Douglas's K-state has the biological function of indicating the property being purple & nearby—a (partially) spatial property. If so, the view can, after all, accommodate the limits of phenomenal representation.

Reply. My response to this is twofold. First, I want to register the fact that—though I am sympathetic to this line of reasoning—I am not convinced that the perceptual systems of Treeple *must* have the biological function of indicating instantiations of the property being colored and spatially located. I agree that there is *a* possible evolutionary history of

Treeple (or creatures like them) where their perceptual systems have the biological function of indicating both color properties and location properties. But I am doubtful that it is the only possible evolutionary history of these creatures. That is, it seems clear to me that it is metaphysically possible that it is merely their systems' indicating the instantiation of color properties that made them adaptive. But metaphysical possibility is all my argument requires. To that extent, it seems to me that there are possible creatures with perceptual systems whose sole biological function is to indicate color. If so, then there are possible creatures that, if teleo-intentionalism is true, phenomenally represent color but not space.

Second, I might be willing to grant the objector's point for the sake of argument since, ultimately, it won't help the teleo-intentionalist. It is not *just* that there is a necessary connection between the experience of color and the experience of space. There is also a more specific necessary connection between the experience of color and the experience of *spatial extension*. As some might put it, it is a necessary truth that colors 'show up' in phenomenology as being extended or as belonging to things that are spatially extended. Once again, bring some red item before you and focus on the redness that phenomenally characterizes your experience. When you do this, you will find that the quality seems to take up space—it seems spatially extended or spread out. Now, ask yourself the following question: would it be possible for a subject to have an experience as of something red and yet fail to have an experience as of something spatially extended? Intuitively, no. The experiences seem bound together in a certain way. Specifically, an experience as of something red must also be an experience as of something spatially extended. If this is so, then, for familiar reasons, it is impossible for there to be an experience that phenomenally represents a color property but does not

phenomenally represent an extension property—like *being spatially extended in some way W*. The problem now becomes this. Even if it is plausible that the perceptual systems of Treeple must have the biological function of indicating spatial *location*, it is clear that they need not have the biological function of indicating spatial *extension*. More to the point, even if Douglas's K-state has the function of indicating that purple is instantiated nearby or around, it need not have the function of indicating (say) the rough shape of anything at all. Accordingly, by the lights of teleo-intentionalism, it does not phenomenally represent an extension property even though it phenomenally represents a color property. But, given the necessary connection between the experience of color and the experience of extension, this cannot be so.

3.4.2 The problem does not spread

Objection. Even if teleo-intentionalism is false, the problem does not spread to other varieties of reductive intentionalism. Consider, for example, the *causal covariation intentionalism* advocated by Michael Tye (1995, 2009). This theory has it that, roughly, a state's phenomenally representing a quality is identical with its playing the cognitive-input role and being caused by instantiations of that quality under (evolutionarily determined) optimal conditions. It is not immediately obvious that this view will have the problems of its Dretskean cousin. For there is at least something to the thought that, necessarily, being caused by the instantiation of a color property requires being caused by the instantiation of some spatial property. If this is so, then causal covariation intentionalism does not allow for the phenomenal representation of color properties in isolation.

Reply. Whether there is a *necessary* connection between being caused by the instantiation of a color property and being caused by the instantiation of some spatial property is unclear. Imagine a machine with a color sensor and a pneumatic arm. The machine uses the color sensor to detect the colors of woodblocks and the pneumatic arm to sort them into bins. Suppose on one occasion the machine scans a red block and then places it in a bin labeled 'RED'. Why did the machine sort the block as it did? Because the block was red. It was the instantiation of a color property that caused the machine to sort the block into the RED bin. But notice that it is not obvious that the block's shape or location is part of what caused the machine to sort the block as it did. To that extent, it is not obvious whether there is a necessary connection between being caused by the instantiation of a color property and being caused by the instantiation of a spatial property. And if there is no necessary connection, then causal covariation intentionalism will fall in the same manner as its Dretskean counterpart: by allowing representational decoupling in ways that the limits of phenomenal representation forbid.

3.4.3 RAMSIFIED REDUCTIVE INTENTIONALISM ESCAPES THE ARGUMENT

Objection. The reductive intentionalist can simply make the following move. She might insist that *there is* a version of reductive intentionalism that respects phenomenal representation's limits. It is what we might call a 'Ramsified' reductive intentionalism:

> **Ramsified reductive intentionalism:** Intentionalism is true and phenomenally representing a quality Q is identical with bearing some relation R to Q such that (1) R is identical with some complex physical, functional, or computational relation and (2) R respects phenomenal representation's limits.

The idea here is that we rely on the limits of phenomenal representation to *pick out* the relation that the reductive intentionalist should rely on in constructing her theory. Of course, this makes the theory trivially compatible with phenomenal representation's limits.

Reply. There is something deeply unsatisfying about this view. Compare: Suppose I want a justified-true-belief (JTB) account of knowledge that is not subject to Gettier counterexamples. I could achieve such an account by saying that knowledge is justified, true, un-Gettiered belief. This, I take it, would not be an adequate JTB theory of knowledge. Though it might be extensionally adequate, it fails to *explain*—in terms of justification, truth, and/or belief—why subjects lack knowledge in Gettier cases. Analogously, though Ramsified reductive intentionalism accommodates phenomenal representation's limits, it does not *explain* in broadly speaking naturalistic terms why phenomenal representation has the limits it does.[37]

3.4.4 Phenomenal representation is pictorial

Objection. Such an explanation can be given if we append to reductive intentionalism the thesis that phenomenal representation is (quasi)*pictorial*.

> **Reductive pictorial intentionalism (RPI):** (1) Intentionalism is true; (2) phenomenally representing a quality is identical with bearing some physical, functional, or computational relation to that quality; and (3) phenomenal representation is a species of pictorial representation.

What does RPI amount to exactly?

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[37] This, I take it, is one of the primary worries in Pautz (2016).

Pictorial representation is not just a matter of the format of representation being picture-like since not all representation done by pictures is pictorial representation. For example, a political cartoon might represent that Donald Trump is a poor choice for the Republican nomination by showing a Trump tower collapsing into dust. While the cartoon represents that Donald Trump is a poor choice for the Republican nomination, it does not *pictorially* represent this state of affairs. As we might put it, the picture does not *depict* this state of affairs. What it depicts or pictorially represents is the collapsing of the Trump Tower.

But once we have a grip on pictorial representation, we can see that it is limited in many of the ways that phenomenal representation is. In particular, it is impossible to pictorially represent color properties without pictorially representing spatial properties. So, if true, RPI would *explain by subsumption* why phenomenal representation has the limits it does—it would explain its limits by subsuming them under some general rule or law about the limits of pictorial representation. That is, because it is a species of pictorial representation, it is impossible to phenomenally represent color without phenomenally representing space. Moreover, this would enable an explanation of why the case of the Treeple is impossible.

Reply. Let me start with a quibble that will lead us into a more serious issue. It is worth noting that there is a tendency among philosophers of mind to speak as if there is just *one* kind of pictorial representation. But this is not so. There are many kinds of pictorial representation just as there are many kinds of linguistic representation. These kinds are individuated, roughly, by the systems of representation that govern them (Greenberg 2013). In *some* pictorial systems, there are clearly means by which colors can be represented in isolation. Imagine a sort of 'Lagadonian' system of pictorial

representation with one rule: each color pictorially represents itself. This appears to be a system of pictorial representation in which colors can be representationally isolated. So if RPI intends to achieve explanation by subsumption, it needs to be more specific about the kind of pictorial representation we have in view.

But as I said, this is a quibble. I suspect that the idea is that 'ordinary' pictorial representation does not allow for the representation of color without the representation space. Let us call this species of pictorial representation *depiction*. The idea, then, is that we explain the limits of phenomenal representation in terms of the limits of depiction—its limits are subsumed by the limits of depiction.

The problem is that, once we get clear about what the idea is, a circularity worry looms large. I think that Tim Crane puts his finger on the source of the problem when he says that it's *not* that "visual perception is essentially pictorial;...rather...picturing is essentially visual" (2009: 462). The thought seems rather intuitive: what is depicted is *how things look* from a given viewpoint. How things look from a given viewpoint, if intentionalism is true, is given by the properties phenomenally represented by a normal subject's visual experience from that viewpoint. I agree with the objector that this connection is explanatory, not coincidental. But I think they've got the order of explanation wrong. Part of what explains the fact that *x* depicts something as having a property F is that, were *x* to be viewed by a subject under normal conditions, it would cause that subject to have an experience that phenomenally represents F. But this means if we were to explain the limits of phenomenal representation in terms of the limits of depiction, our explanation would be *circular*. In fact, it would just be mistaken. Depiction has the limits it does because it is a sort of quasi-phenomenal representation. Not the other way around.

In fact, philosophers of art often *strive* for exactly this kind of explanation. Dominic Gregory (2010) develops a metasemantics of depiction that tries to do justice to the following, intuitive idea: "Pictures show how things look from viewpoints; and what a picture depicts derives from how it shows things as looking" (20). On this account, roughly, "things that are involved in…phenomenological contents…will be what settles the picture's depictive properties" (ibid). Gregory goes on to show how this account can serve to explain certain representational limits of depiction by *deriving them from the representational limits of experience*. One claim he focuses on is:

> there are many properties F which are such that, if a picture depicts some item as being F, the picture must depict the item as being some more specific variety of F. (ibid: 26)

He uses the property of *being a triangle* to illustrate. If a picture depicts something as being a triangle, then it must depict it as being some *specific sort* of triangle. He notes that the same seems to hold for experience, writing that: "we never just seem to see 'a triangle'. Rather, anyone to whom things look thus, and who thereby seems to see a triangle, will be someone who seems to see a particular sort of triangle" (ibid). Given his metasemantics of depiction, the limits of depiction are therefore inherited from the representational limits of experience.

3.4.5 Phenomenal representation is structured

Objection. You've misunderstood the previous objection. Set questions about explanatory priority to one side. The crucial point is this. States that phenomenally represent properties are not simple, atomic states. Rather, they are *structured* in a distinctive way. Moreover, their structure (1) is something like the structure of a picture and (2) this

structure *prevents* them from phenomenally representing color without phenomenally representing space.

One way of thinking about this is to invoke what philosophers and cognitive scientists sometimes call *feature maps*. The relevant sort of feature map may be thought of as a:

> very large matrix drawn on a sheet of paper, some of whose cells contain written symbols. The symbols represent at least some of the following local features: presence of a tiny patch of surface, orientation of the patch of surface, determinate shade of color, texture, and so on. (Tye, 1995: 261)

We might say that states phenomenally represent as follows: symbols in the cells of the matrix achieve their representational properties in a standard, reductive representationalist fashion. For example, whether a given symbol represents this or that color is fixed by the biological function of that symbol type within the subject that tokens the symbol. *However*, whether the state itself phenomenally represents certain spatial properties is a function of the representational properties and location of the symbols in the matrix. So, to give a toy example, if a state S has symbols *x* and *y* located in adjacent cells A1 and B1, and *x* and *y* both represent red, then S phenomenally represents a red line at a particular location.

This is not, however, a contingent feature of phenomenal representation. It is *essential* to phenomenal representation—and so necessarily true—that it is realized in a feature map format. In other words, states that are not feature maps cannot phenomenally represent. But states that are feature maps and that represent *at all* must represent spatial properties. Hence, we get the necessary connection between the phenomenal

representation of color and the phenomenal representation of space. So reductive intentionalism is saved.

Reply. It is, I think, far from obvious that it is essential to phenomenal representation that it be realized any particular representational format. Why couldn't it be that there are creatures who have states that phenomenally represent but these states lack a feature map structure? However, I'll set this aside. I think there is a far more striking consequence of the feature map proposal.

One of the attractive features of reductive intentionalism is that, standardly, it is *externalist*. It allows us to explain the character of our experiences by appealing to the character of the *world*. Color experiences, for example, inherit their phenomenology from the colors of the objects that (roughly) typically cause them. However, on the feature map proposal, this is *false* of spatial properties. The spatial properties that our experiences phenomenally represent will be determined, almost entirely, by the structure of the states themselves. Recall the toy example above where state S has symbols *x* and *y* located in adjacent cells A1 and B1, and *x* and *y* both represent red. Once we fix the representational properties of these symbols, the feature map structure of S does the rest of the representation-fixing work. Purely because *x* and *y* are located in adjacent cells, S phenomenally represents a red *line* at a particular *location*. S does not inherit its spatial character from the world *at all*. Instead, it inherits it from the feature map structure of S itself. This strikes me as somewhat bizarre. On this view, while the character of color phenomenology is inherited from the world, the character of spatial phenomenology is not. (If anything, it seems that things should go the other way around.) Perhaps this is a way of saving reductive intentionalism. But it comes at a cost that, I suspect, few reductive intentionalists would be willing to pay.

Let me conclude my response to objections by making a general point. Even if there is a way of undermining the case of the Treeple—indeed, even if I am wrong about the necessary connection between color and space—teleo-intentionalism still faces a problem. For it allows for representational decoupling of virtually any pair of properties—including pitch properties and volume properties as well as motion properties and temporal properties. Suppose, for example, that the pitch C#6 is deadly to a certain species at any volume. As a result, members of this species came to have a perceptual system whose biological function is to indicate instantiations of pitch properties. But such a system clearly need not have the function of indicating volume properties at all—the system wouldn't need to 'tell' members of the species how loud the pitch is. It is only the pitch that is a threat to these creatures' survival. Volume is irrelevant. From here, it is easy to construct a case where teleo-intentionalism predicts that there is phenomenal representation of pitch but not volume. Yet, as I have argued, representational isolation of this sort is impossible where phenomenal representation is concerned. This should lead us to reject—or at least heavily revise—teleo-intentionalism.

3.5 Conclusion

Let's take stock. I have argued that phenomenal representation has peculiar limits and that, when we have these limits in view, reductive varieties of intentionalism look implausible. In my view, this isn't a strike against the prospects of intentionalism so much as it is a strike against the prospects of reduction. There are good reasons to be an intentionalist that are *independent* of the advantages it affords one in constructing a reductive theory of consciousness.

I won't get into the details here. But in light of this, I think we might favor a non-reductive form of intentionalism:

> **Non-reductive Intentionalism:** Intentionalism is true and phenomenally representing a quality is grounded in bearing some physical, functional, or computational relation to that quality.

On the face of it, non-reductive intentionalism does not encounter the difficulties of its reductive cousin. At most, if having F grounds having G, then having F *necessitates* having G, but not vice versa. So, in the case of the Treeple, the non-reductive intentionalist—if she goes in for a teleosemantic variety of reductive intentionalism—will be committed to saying that Treeple phenomenally represent colors. However, she will *not* be committed to saying that they do not phenomenally represent spatial properties. For it doesn't follow from the fact that they don't bear the relevant naturalistic relation to spatial properties that they do not phenomenally represent spatial properties—for phenomenal representation isn't *identical* with such a relation on this view. It could very well be that the Treeple phenomenally represent spatial properties, but do so in virtue of standing in some *distinct* relation to those properties. Which relation, however, is a tricky matter. But this is an issue for another time.

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